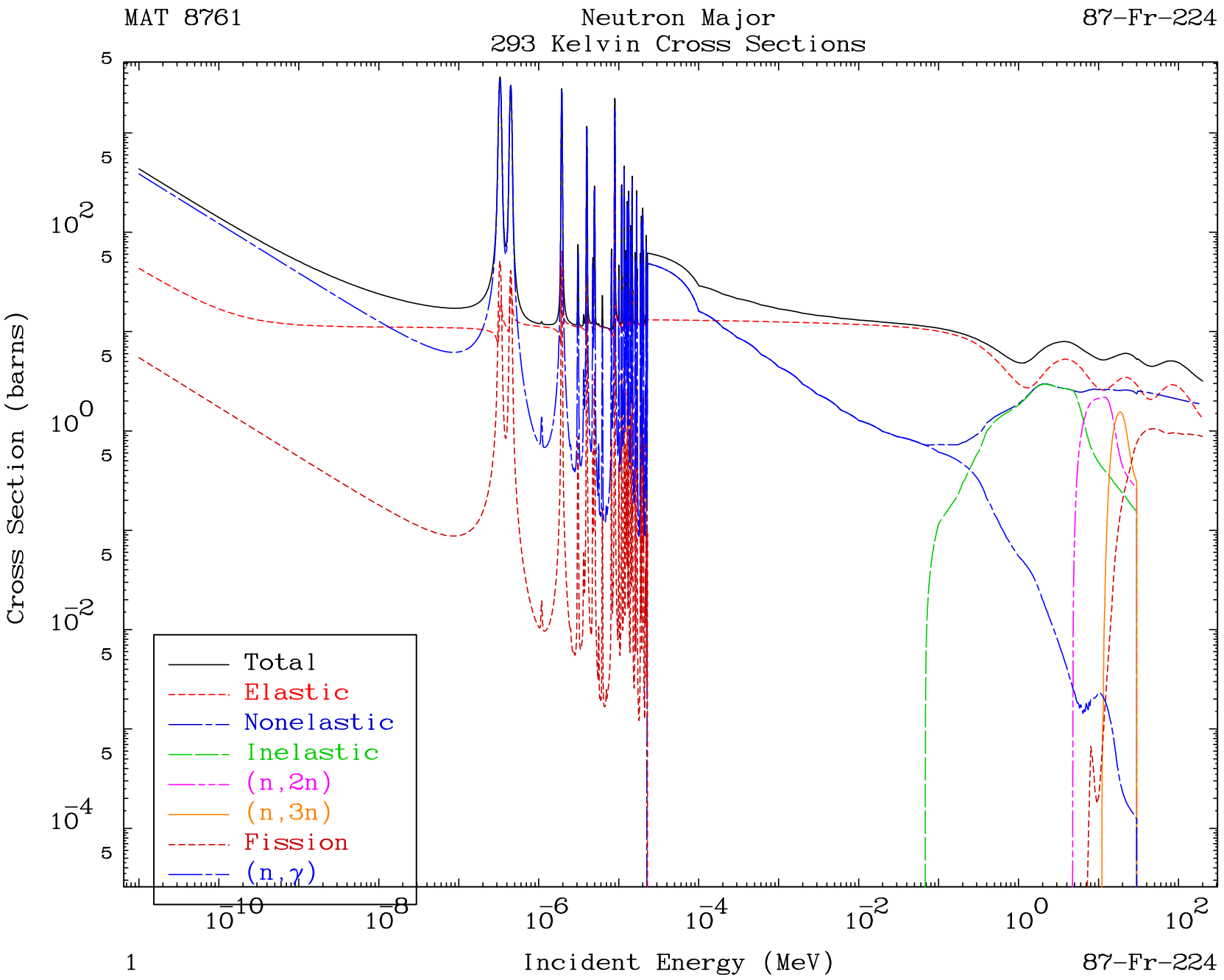
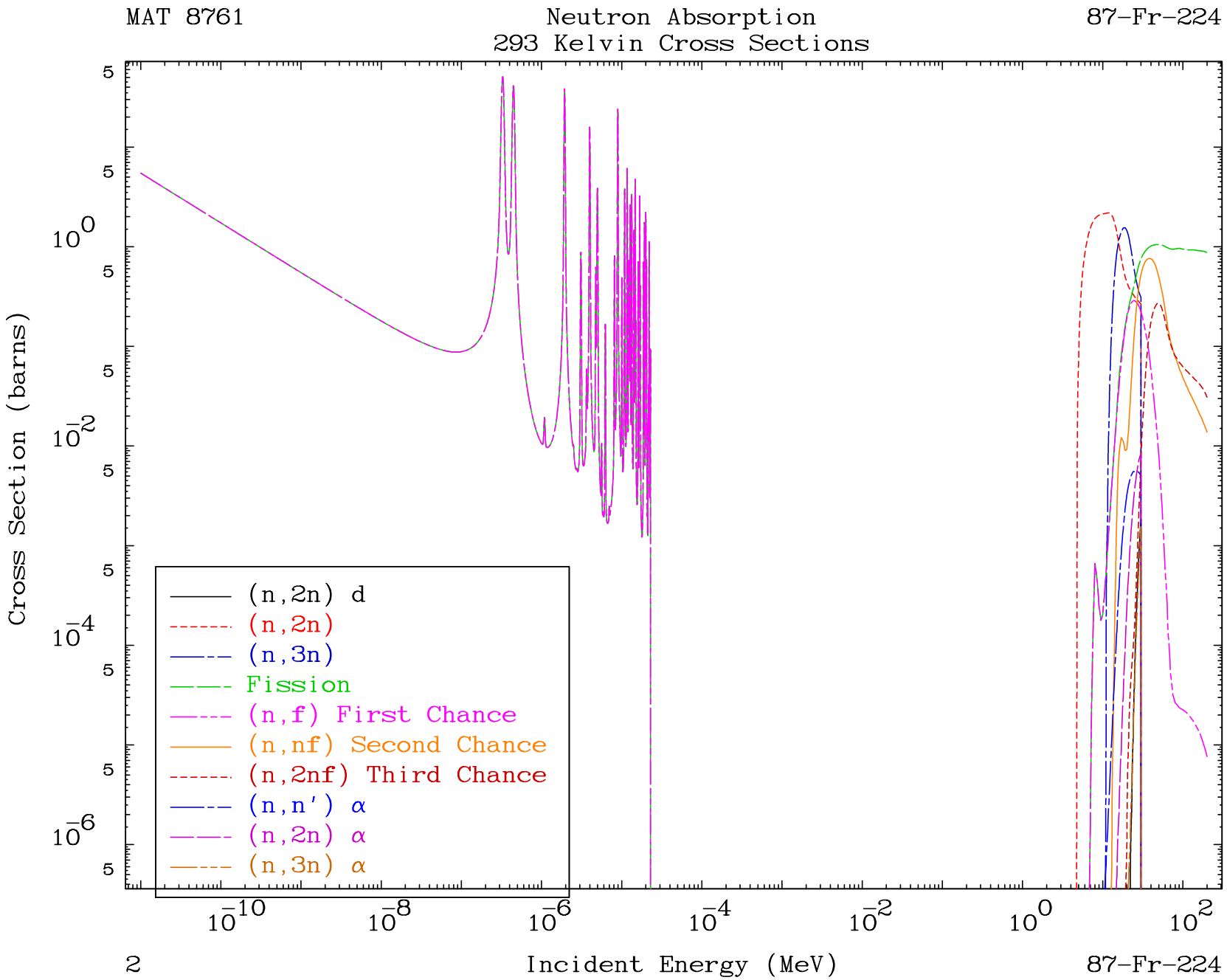
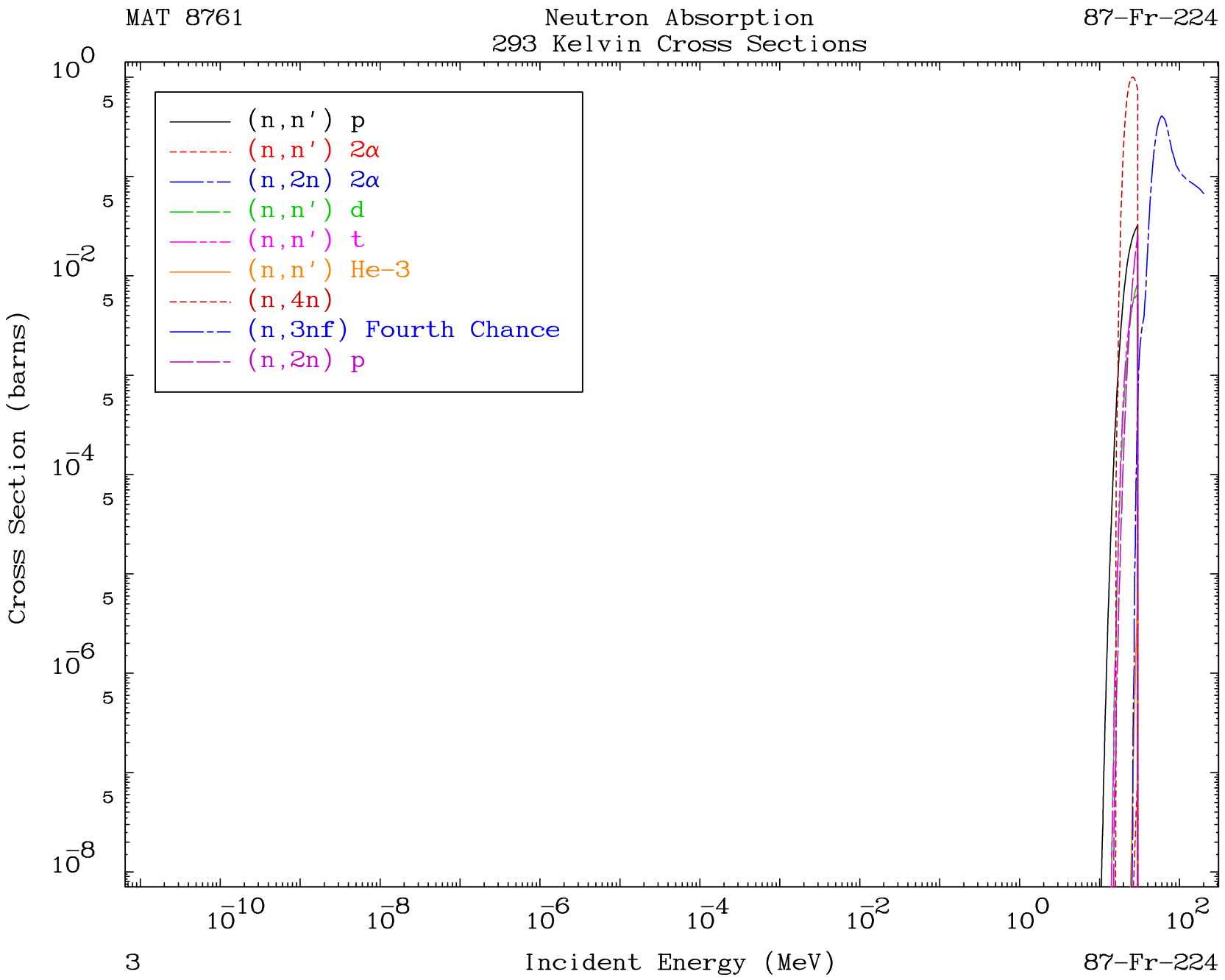
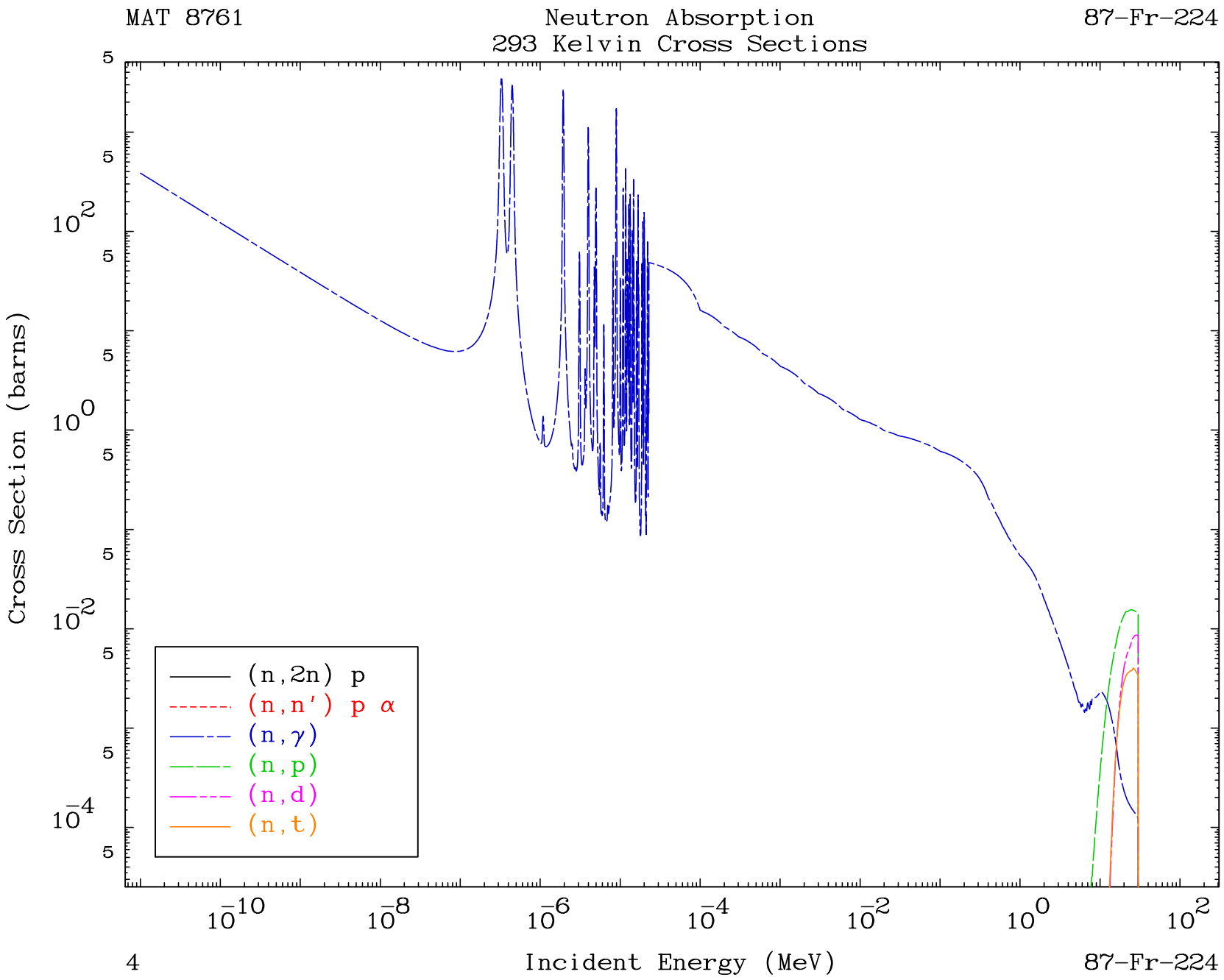
Program EVALPLOT
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

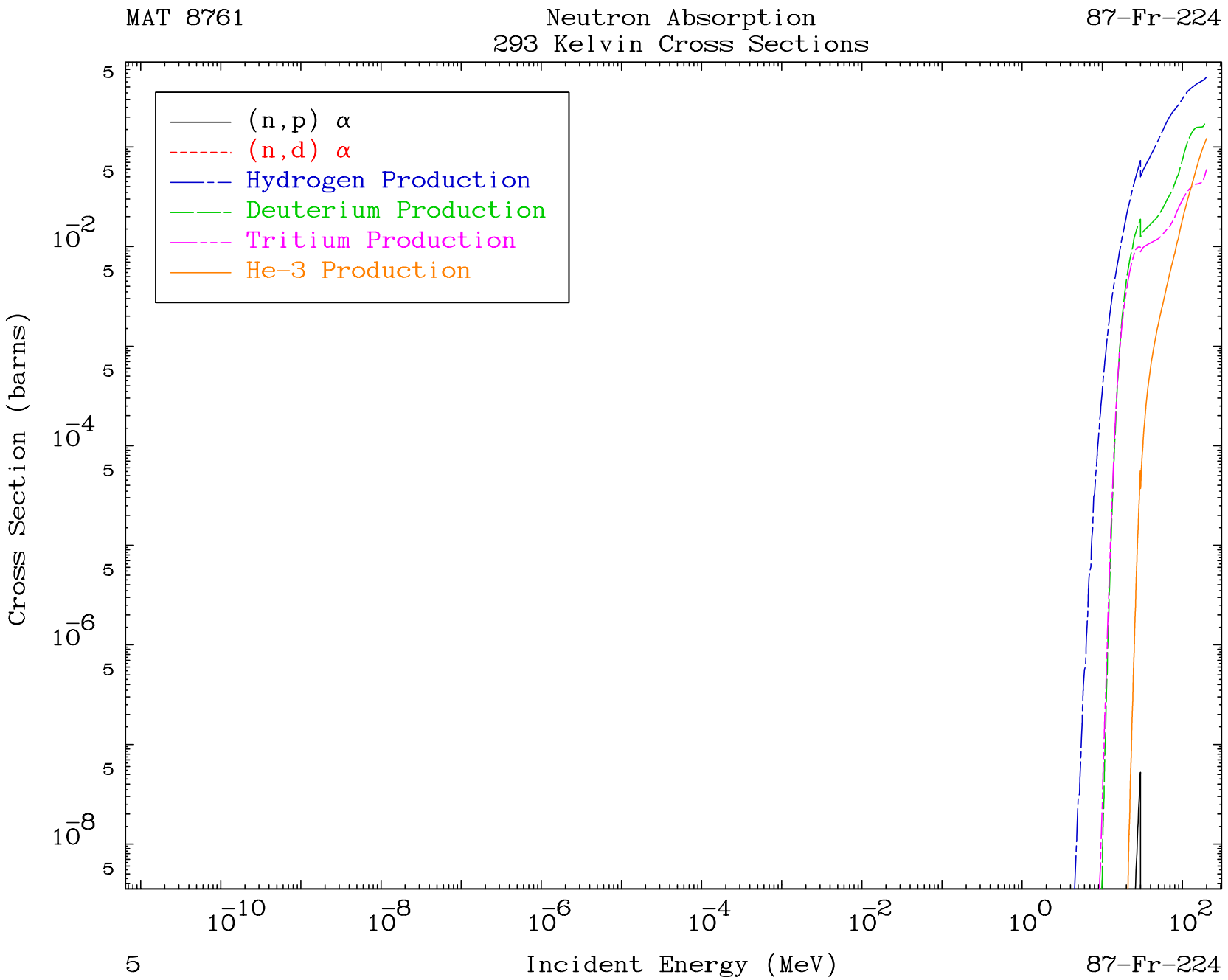
Press Mouse Button to Start

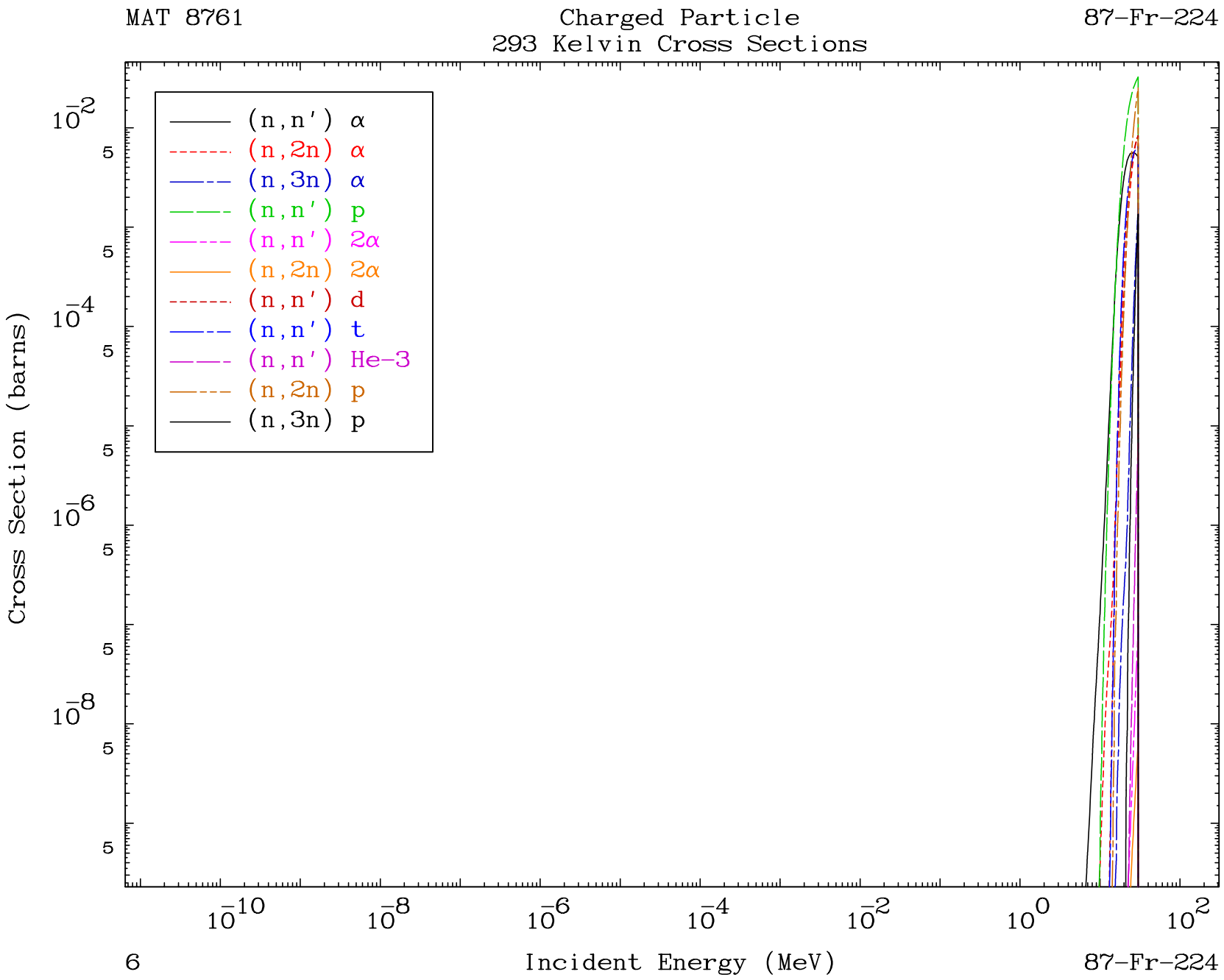

MAT 8761
Neutron Major
87-Fr-224
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
87-Fr-224
1
Total
Elastic
Nonelastic
Inelastic
(n,2n)
(n,3n)
Fission
(n,γ)

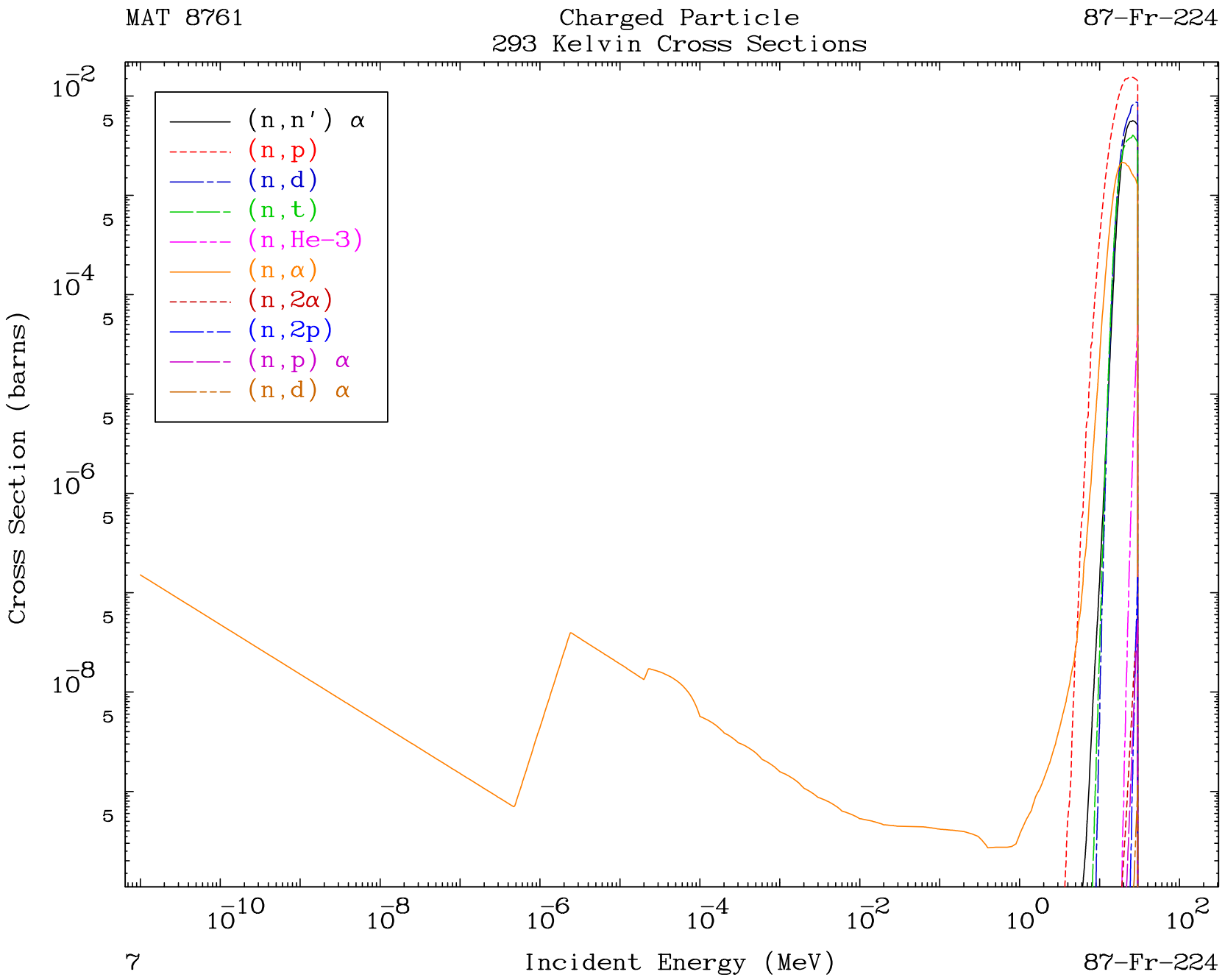

MAT 8761
Neutron Absorption
293 Kelvin Cross Sections
87-Fr-224
Cross Section (barns)
Incident Energy (MeV)
(n,2n) d
(n,2n)
(n,3n)
Fission
(n,f) First Chance
(n,nf) Second Chance
(n,2nf) Third Chance
(n,n') α
(n,2n) α
(n,3n) α
2
87-Fr-224

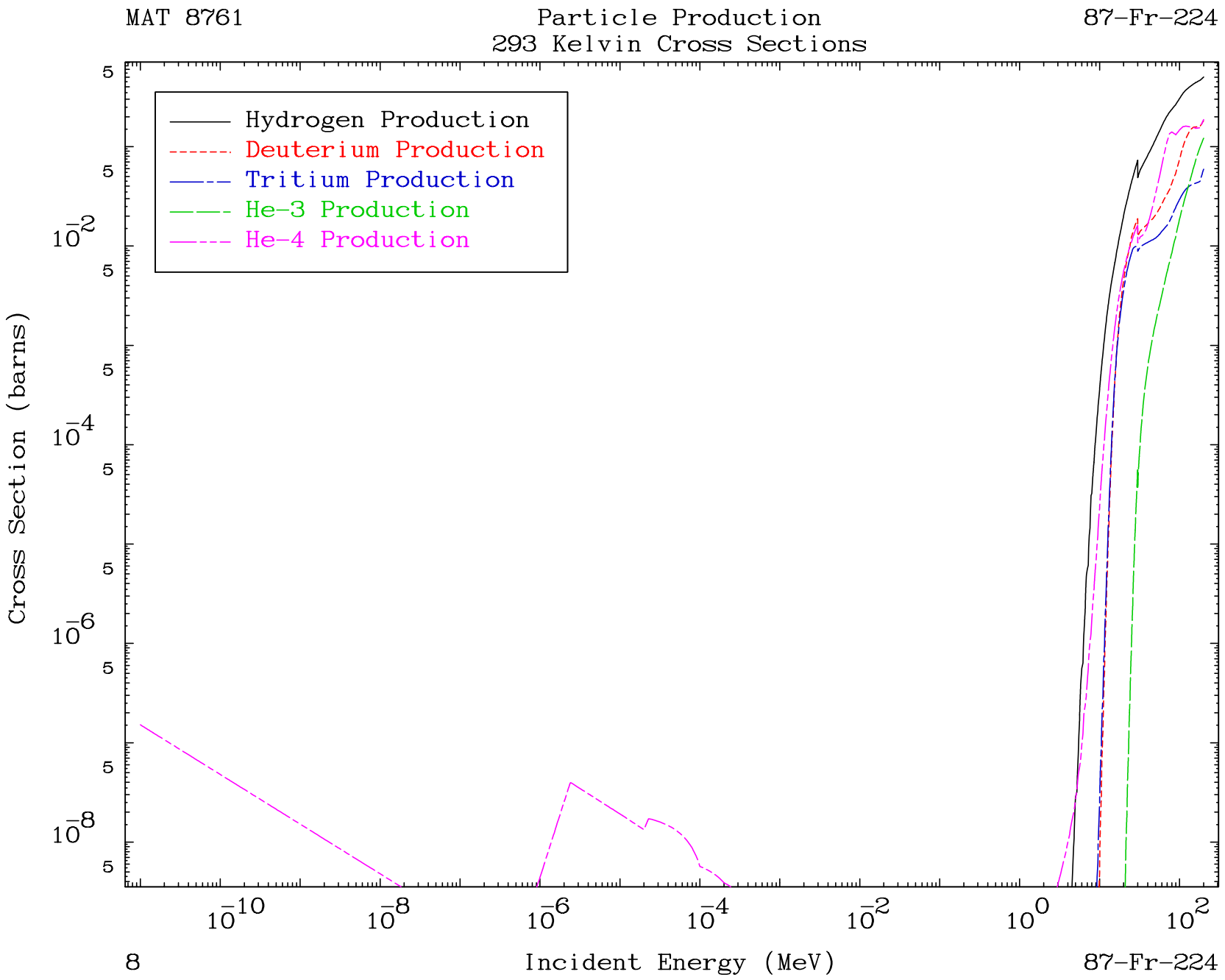

MAT 8761
Neutron Absorption
293 Kelvin Cross Sections
87-Fr-224
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,3nf) Fourth Chance
(n,2n) p
Cross Section (barns)
Incident Energy (MeV)
3
87-Fr-224

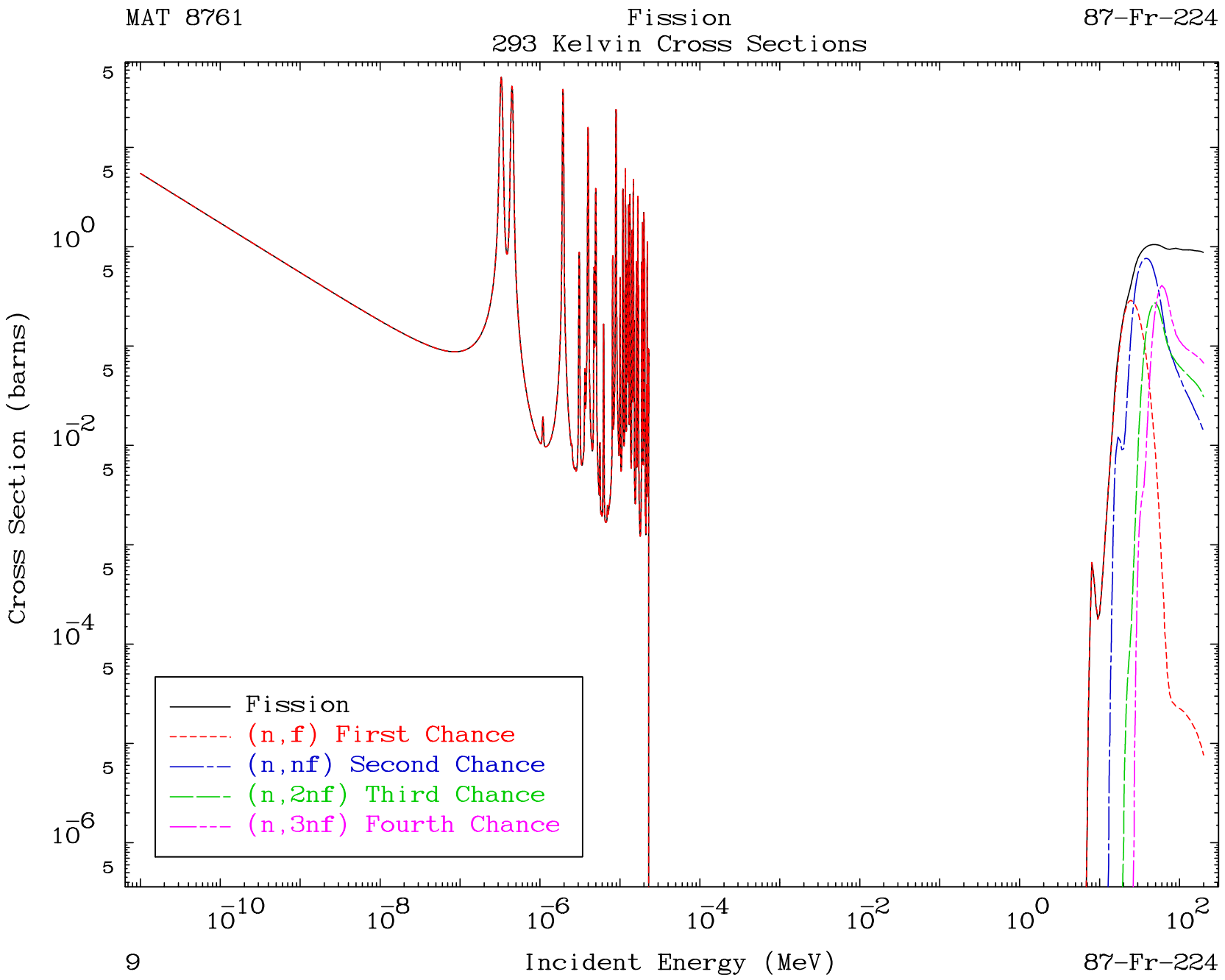

MAT 8761
Neutron Absorption
293 Kelvin Cross Sections
87-Fr-224
Cross Section (barns)
Incident Energy (MeV)
(n,2n) p
(n,n') p α
(n,γ)
(n,p)
(n,d)
(n,t)
4
87-Fr-224

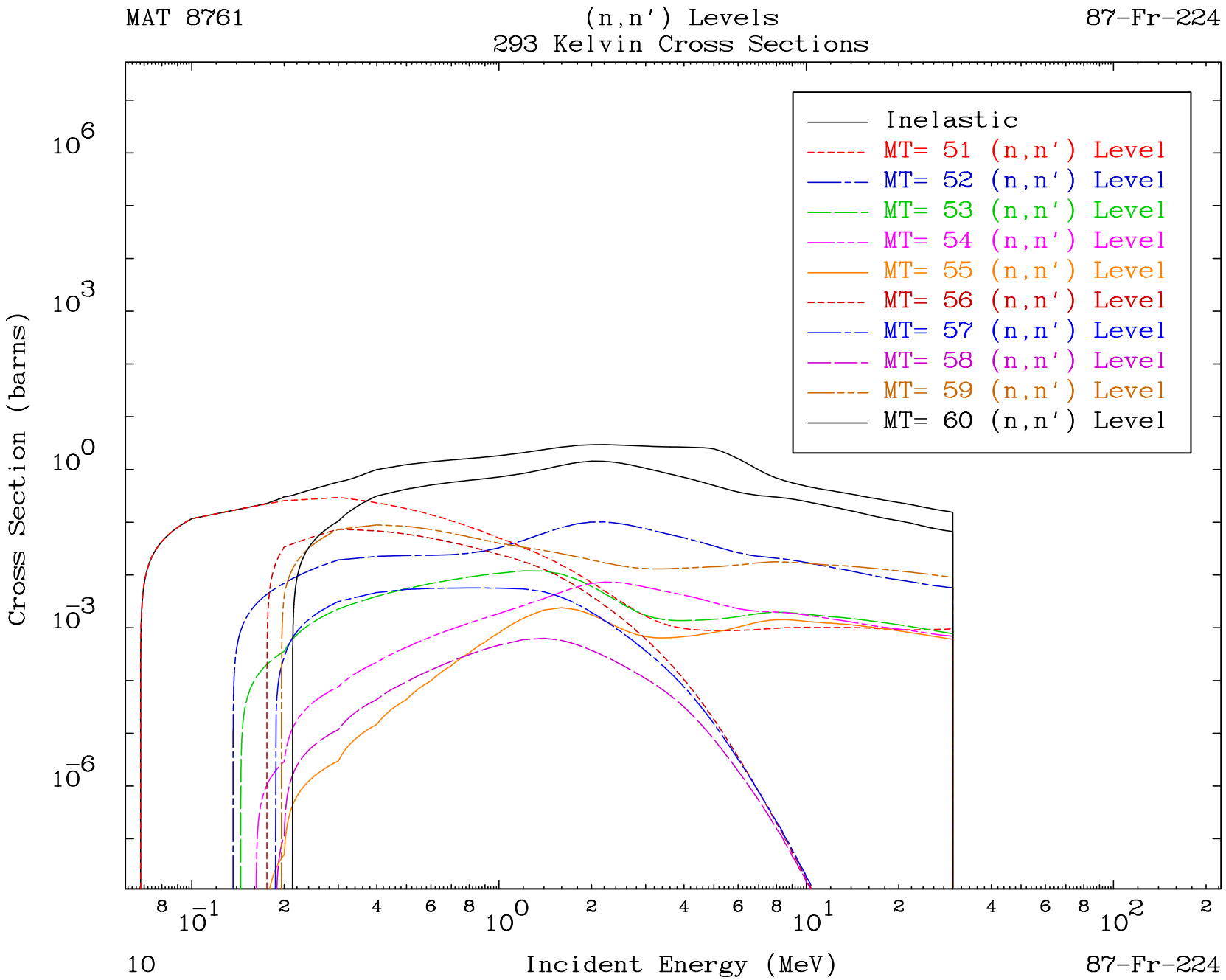

MAT 8761
Neutron Absorption
293 Kelvin Cross Sections
87-Fr-224
(n,p) α
(n,d) α
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
Cross Section (barns)
Incident Energy (MeV)
87-Fr-224

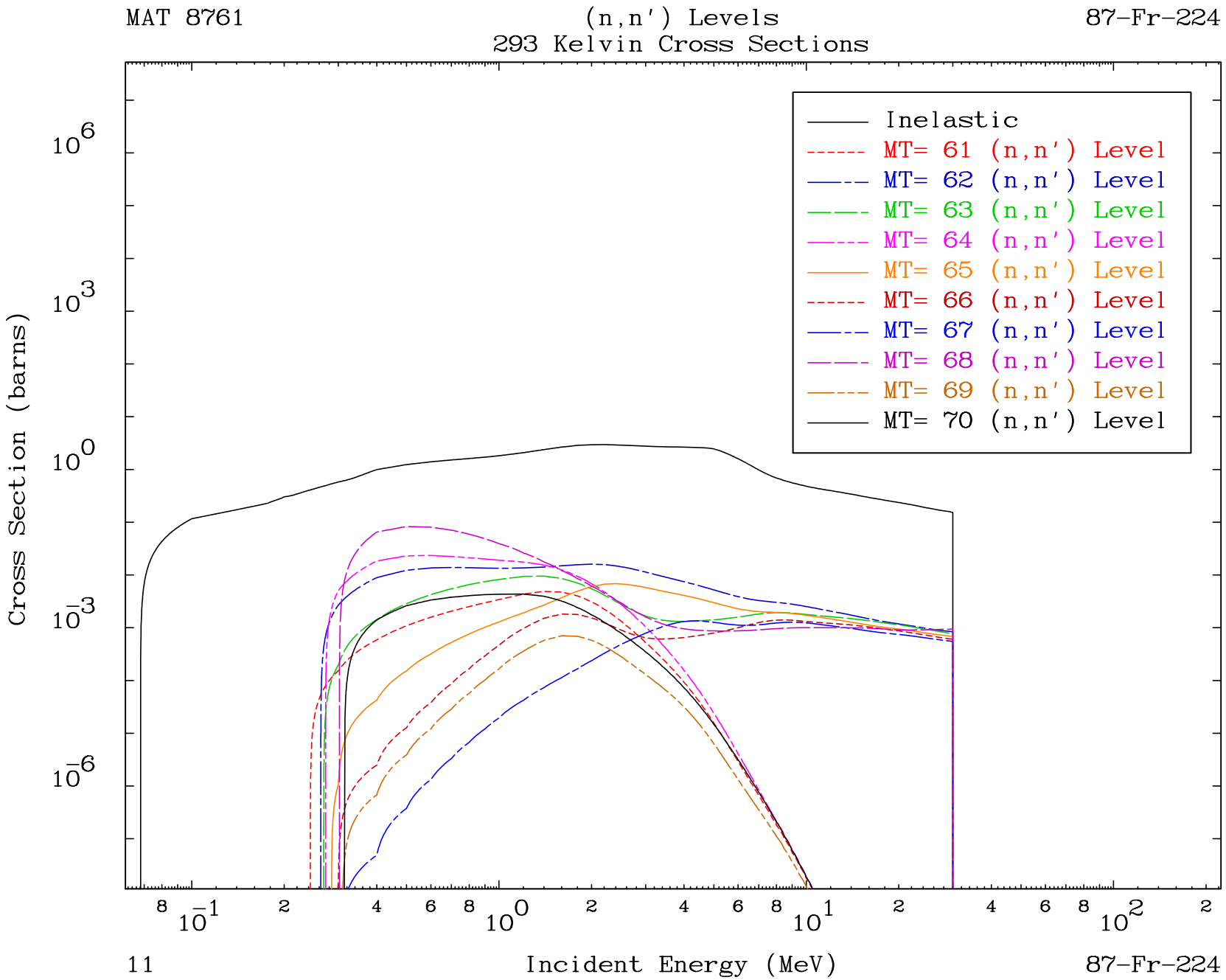

MAT 8761
Charged Particle
293 Kelvin Cross Sections
87-Fr-224
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,2n) 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
6
87-Fr-224

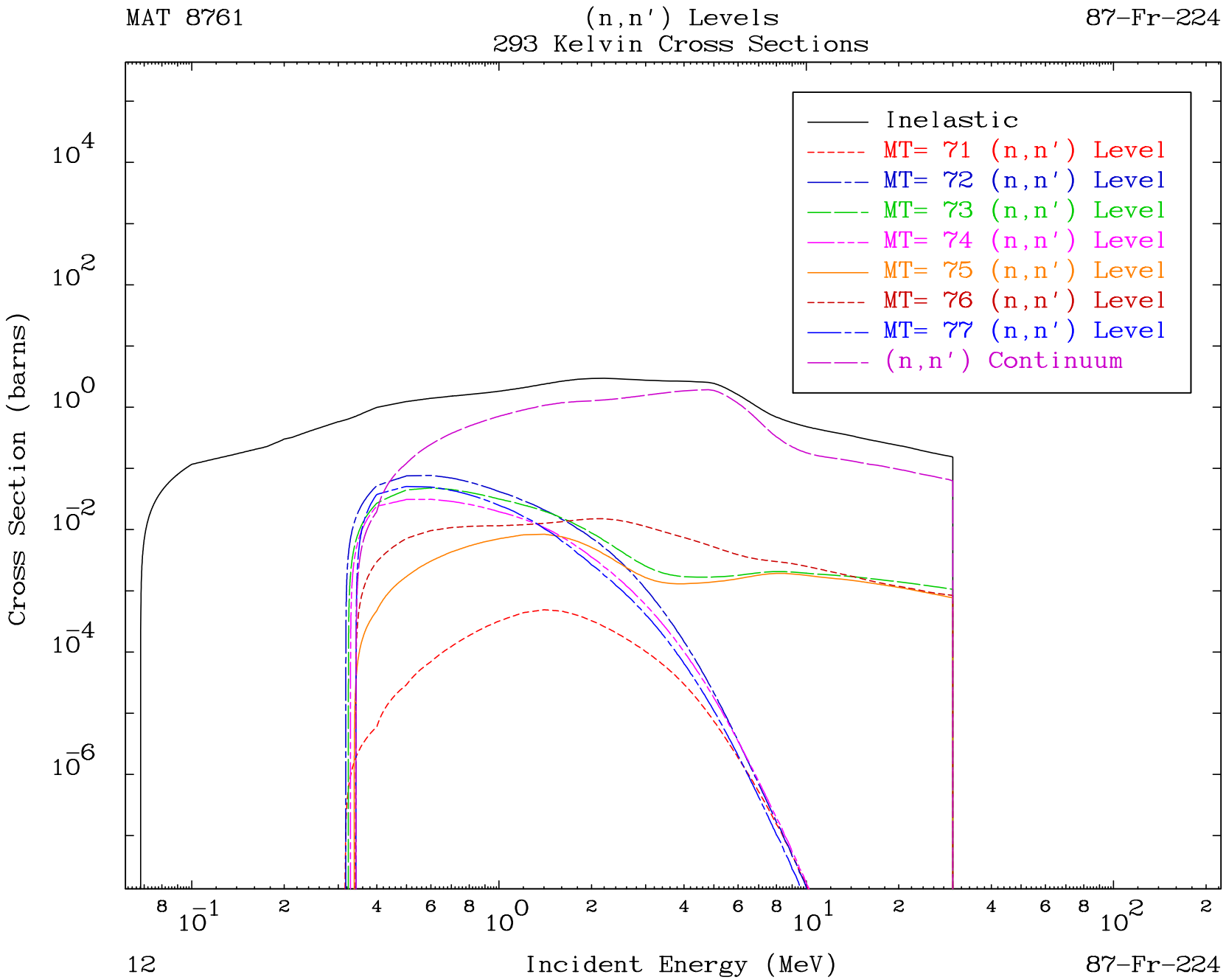

MAT 8761
Charged Particle
293 Kelvin Cross Sections
87-Fr-224
(n,n') α
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,d) α
Cross Section (barns)
Incident Energy (MeV)
7
87-Fr-224

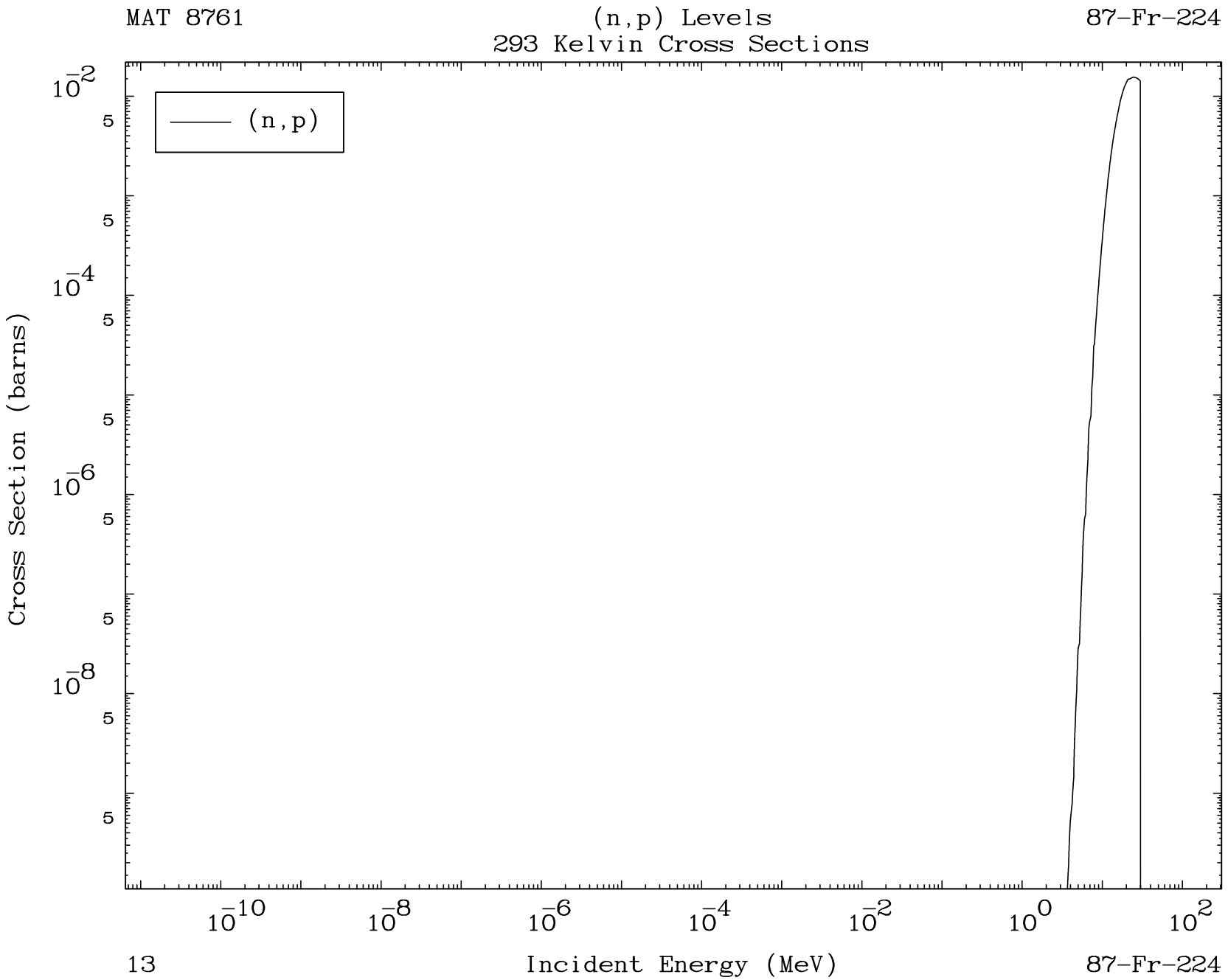

MAT 8761
Particle Production
293 Kelvin Cross Sections
87-Fr-224
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
8
87-Fr-224

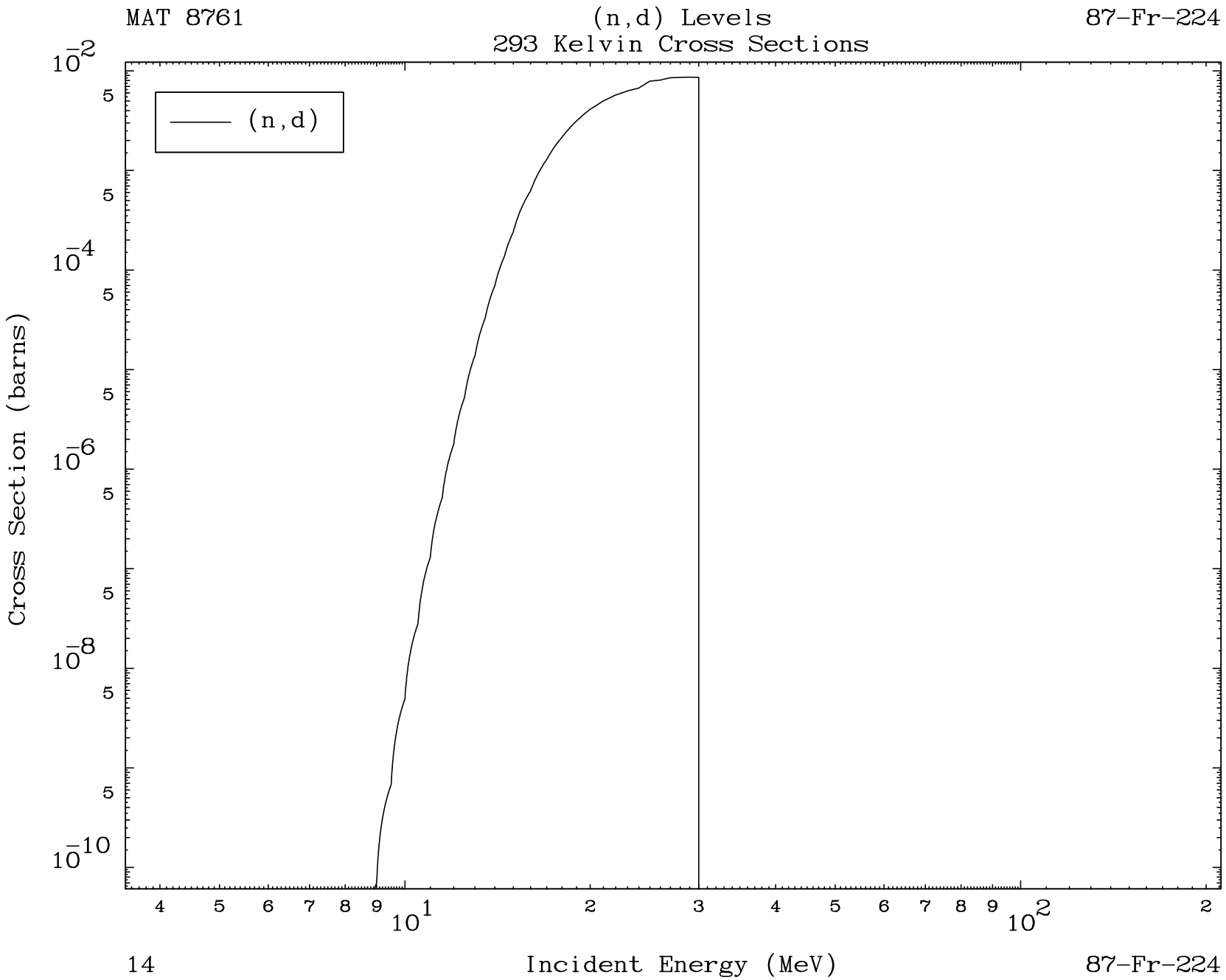

MAT 8761
Fission
87-Fr-224
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Fission
(n,f) First Chance
(n,nf) Second Chance
(n,2nf) Third Chance
(n,3nf) Fourth Chance
9
87-Fr-224

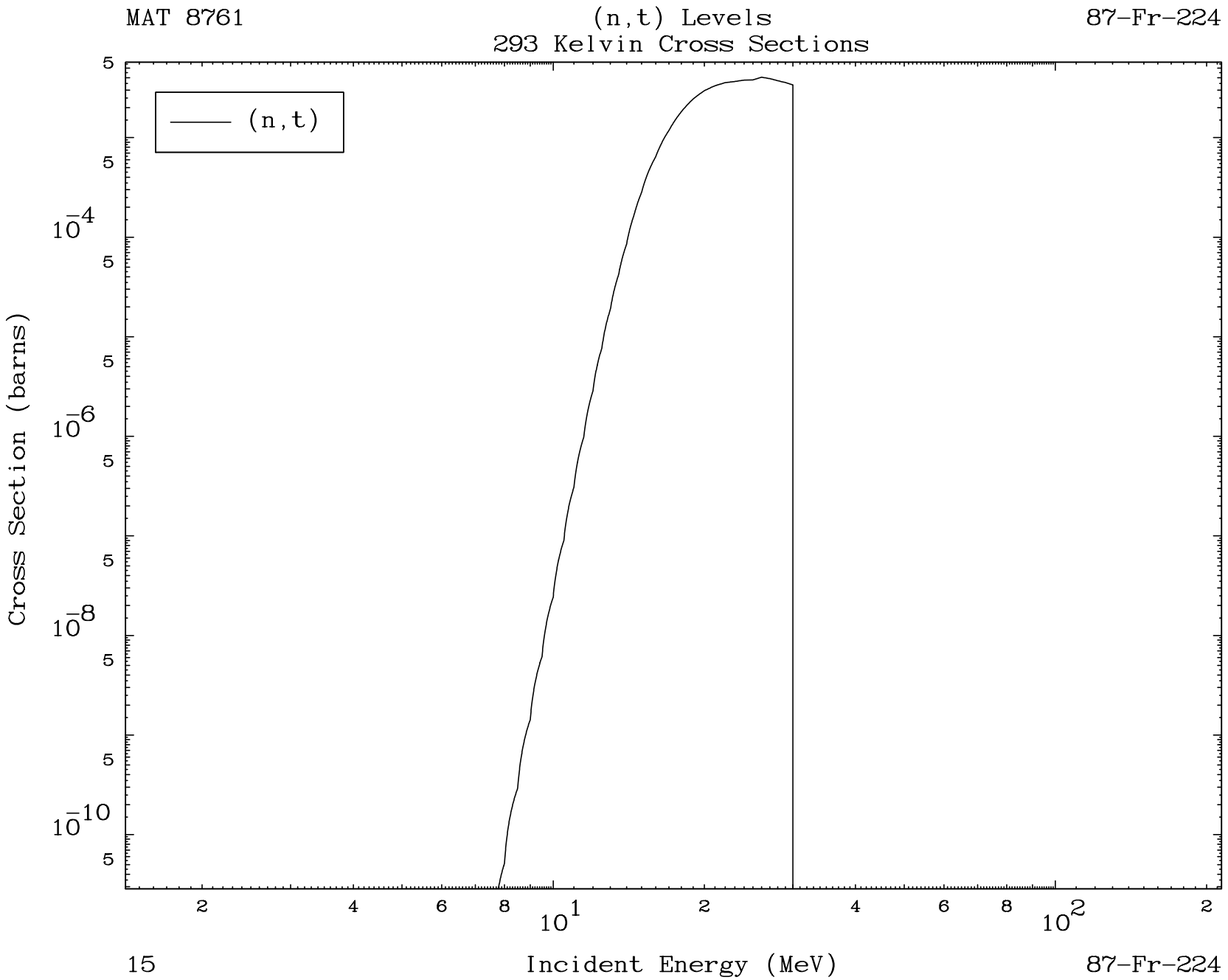

MAT 8761
(n,n') Levels
293 Kelvin Cross Sections
87-Fr-224
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
10
87-Fr-224

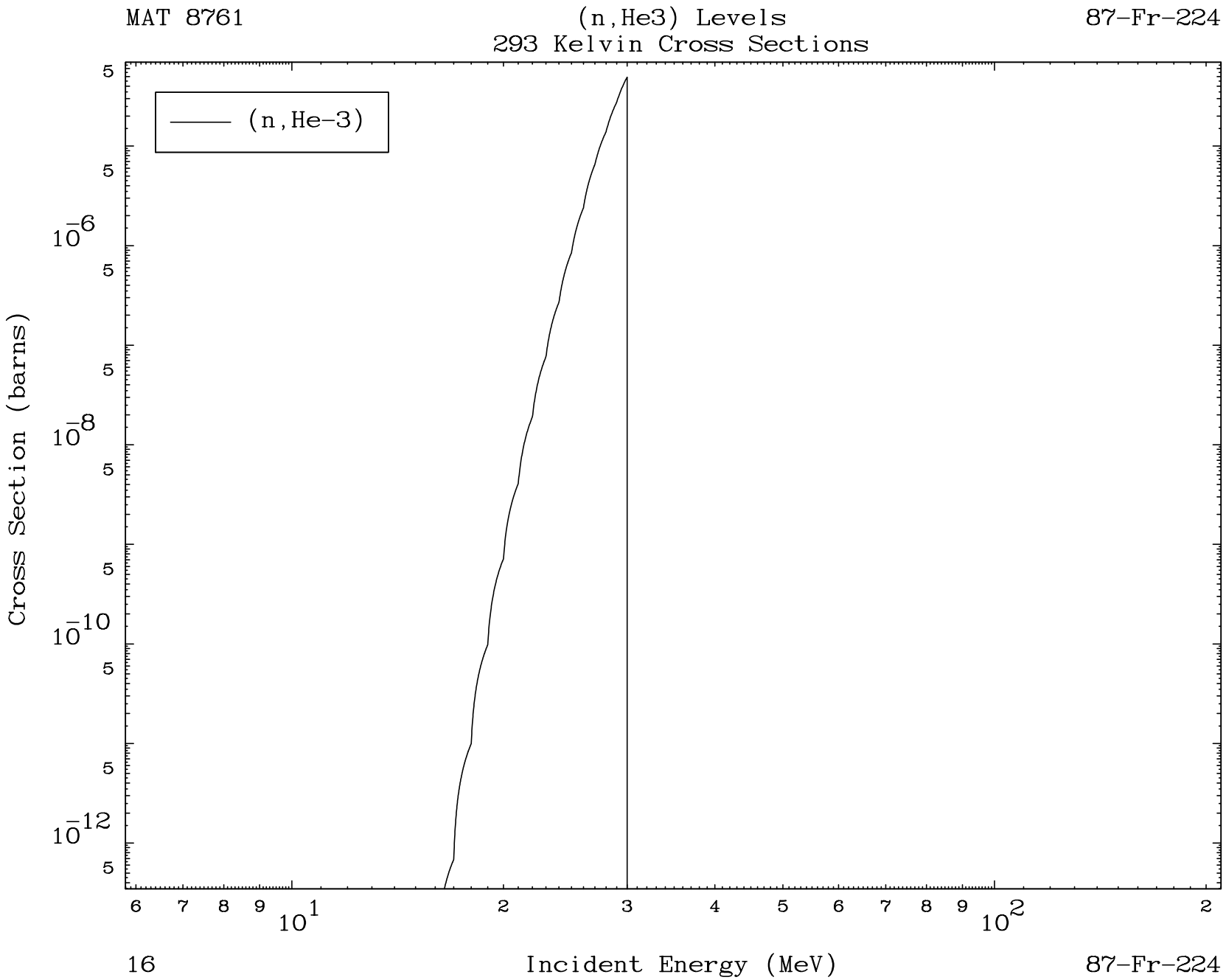

MAT 8761
(n,n') Levels
293 Kelvin Cross Sections
87-Fr-224
Inelastic
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
MT= 70 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
11
87-Fr-224

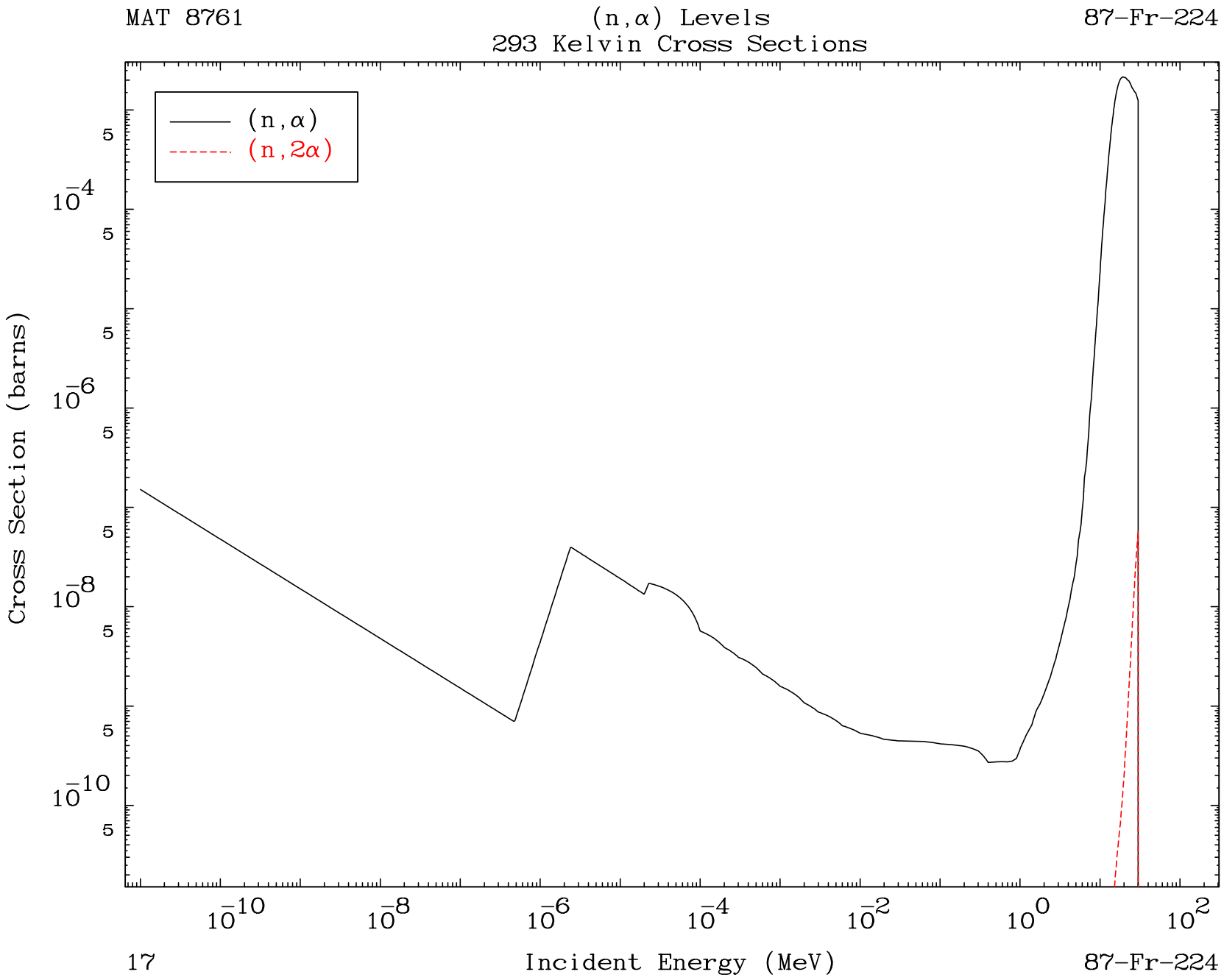

MAT 8761
(n,n') Levels
293 Kelvin Cross Sections
87-Fr-224
Inelastic
MT= 71 (n,n') Level
MT= 72 (n,n') Level
MT= 73 (n,n') Level
MT= 74 (n,n') Level
MT= 75 (n,n') Level
MT= 76 (n,n') Level
MT= 77 (n,n') Level
(n,n') Continuum
Cross Section (barns)
10^4
10^2
10^0
10^-2
10^-4
10^-6
10^-1
10^0
10^1
10^2
Incident Energy (MeV)
12
87-Fr-224

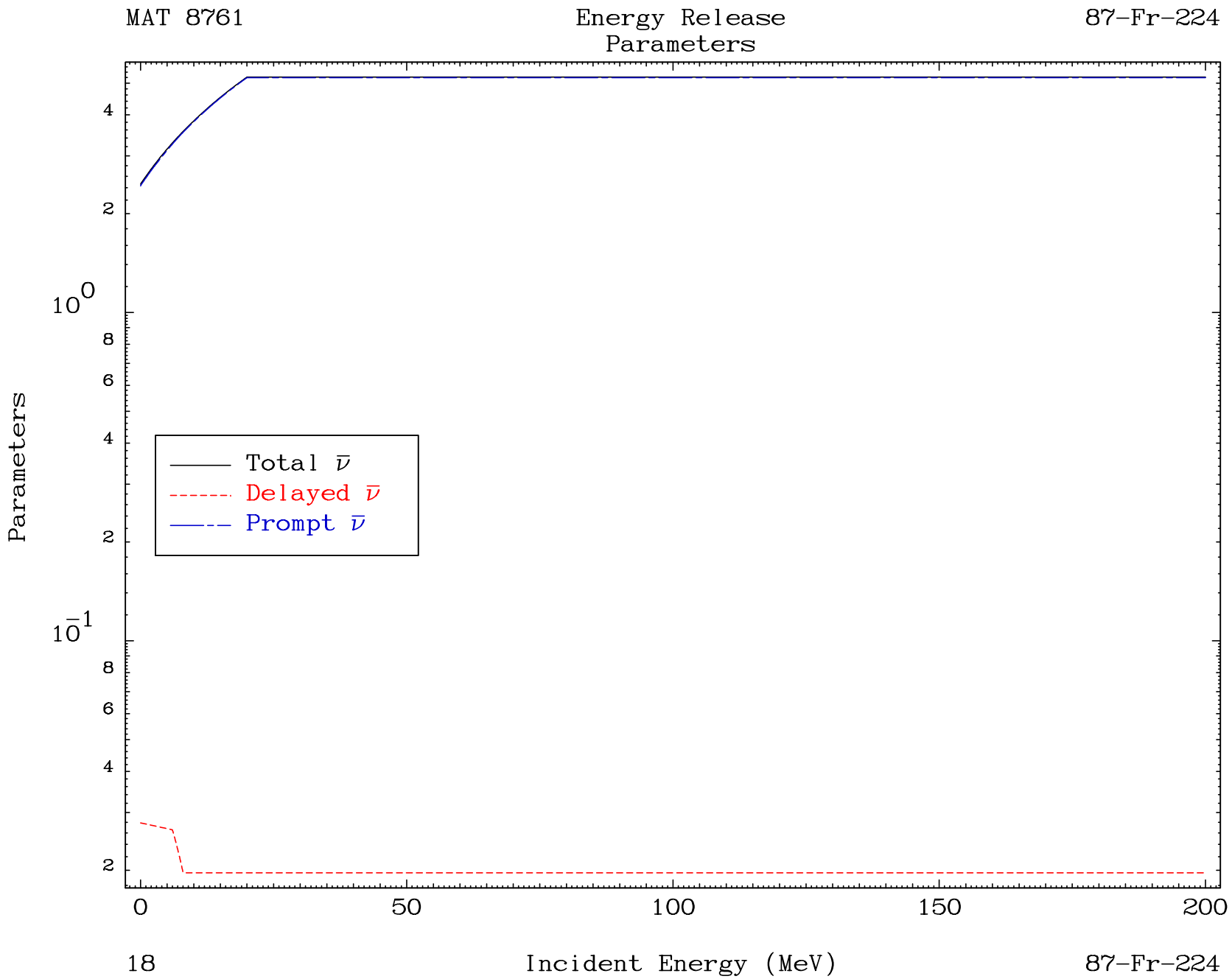

MAT 8761
(n,p) Levels
87-Fr-224
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
13
87-Fr-224

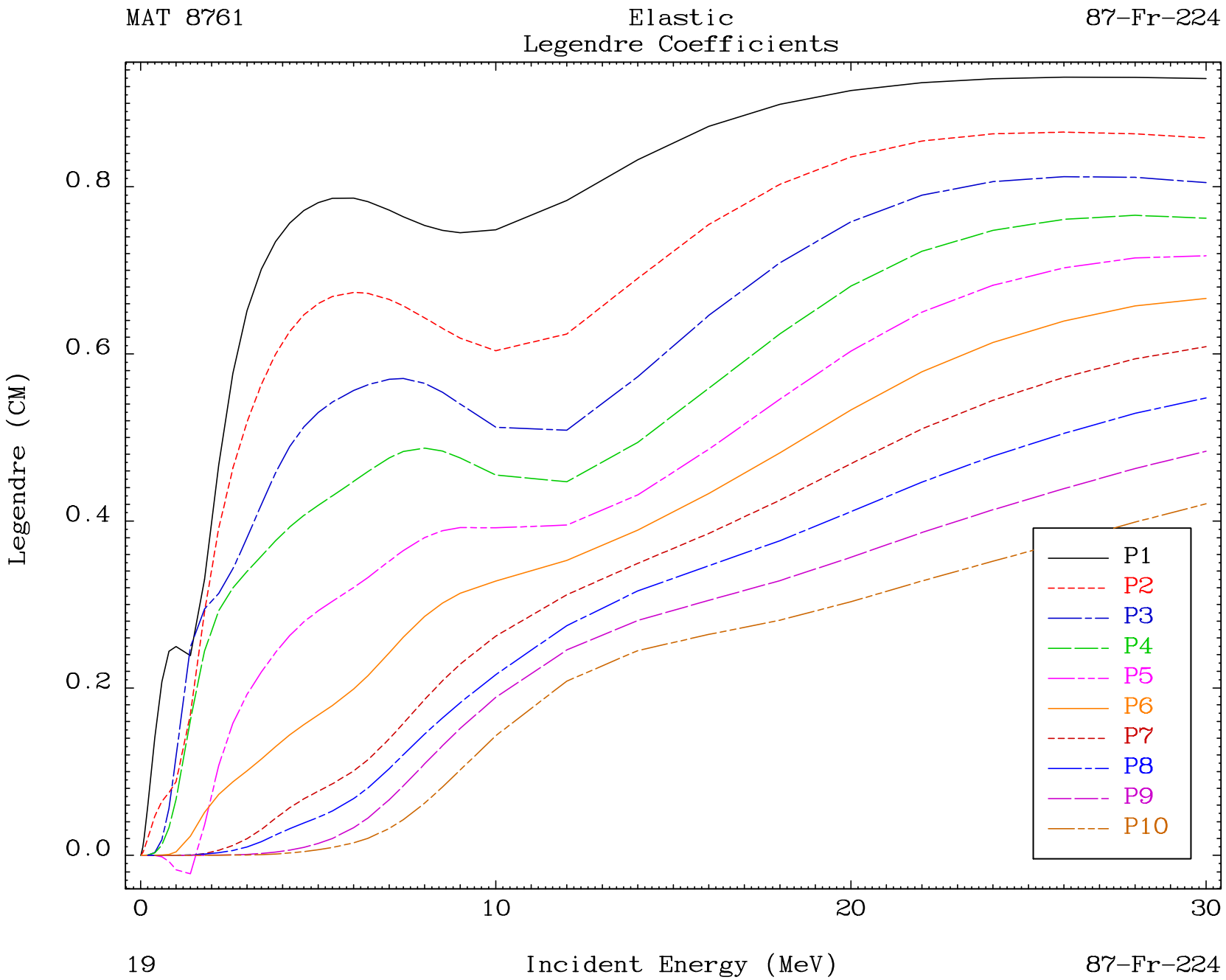

MAT 8761
(n,d) Levels
87-Fr-224
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
14
87-Fr-224

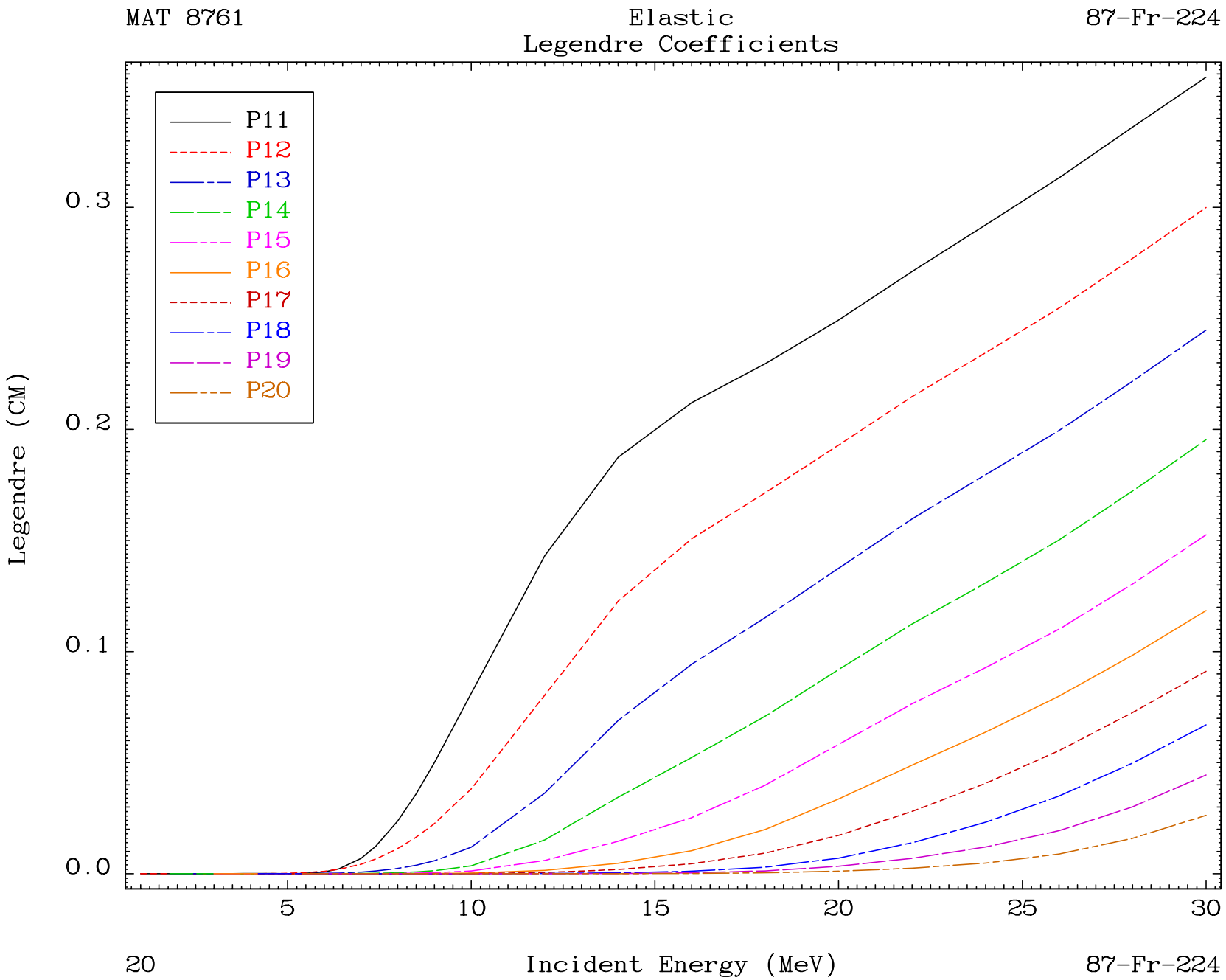

MAT 8761
(n,t) Levels
87-Fr-224
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
15
87-Fr-224

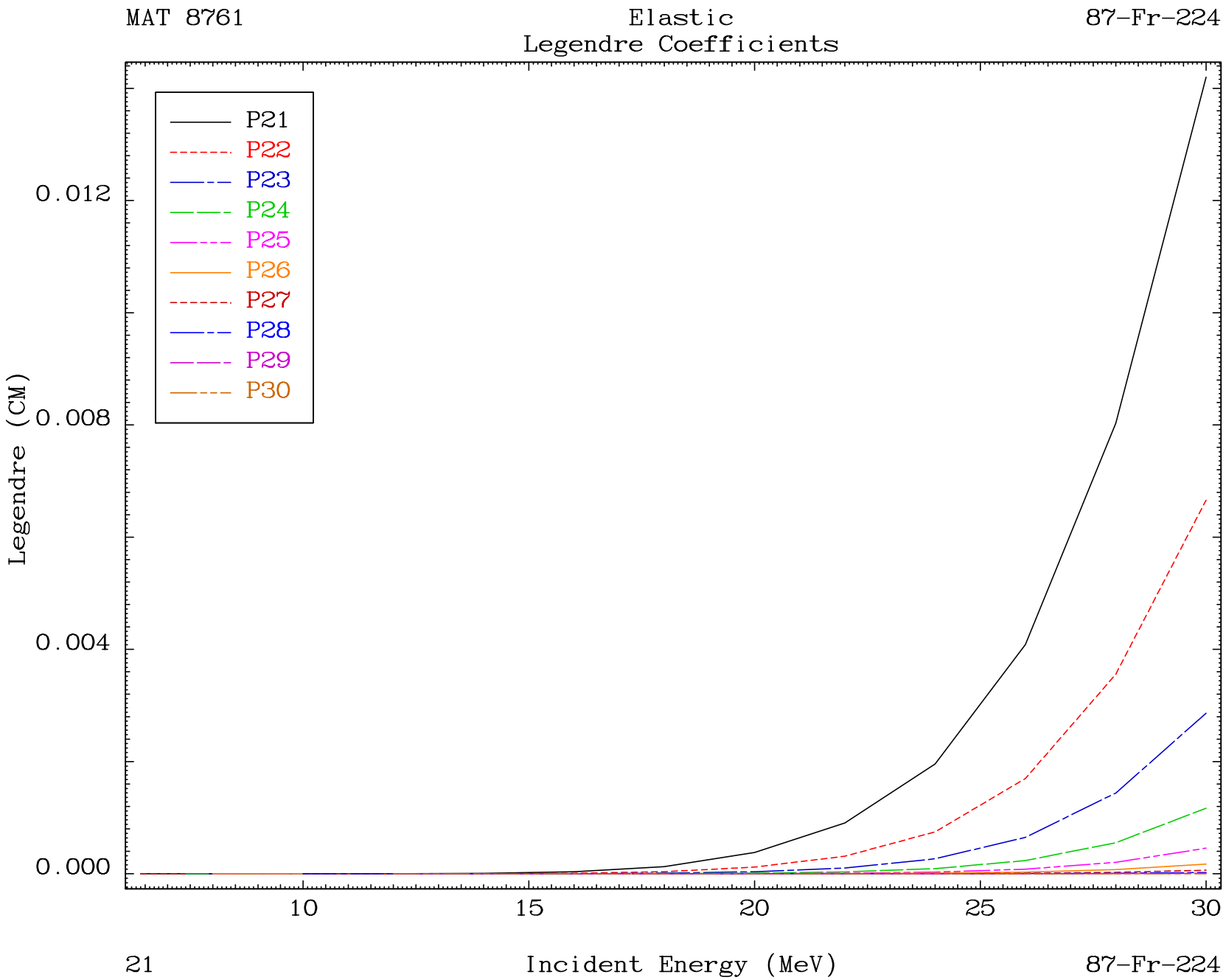

MAT 8761
(n,He3) Levels
87-Fr-224
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
16
87-Fr-224

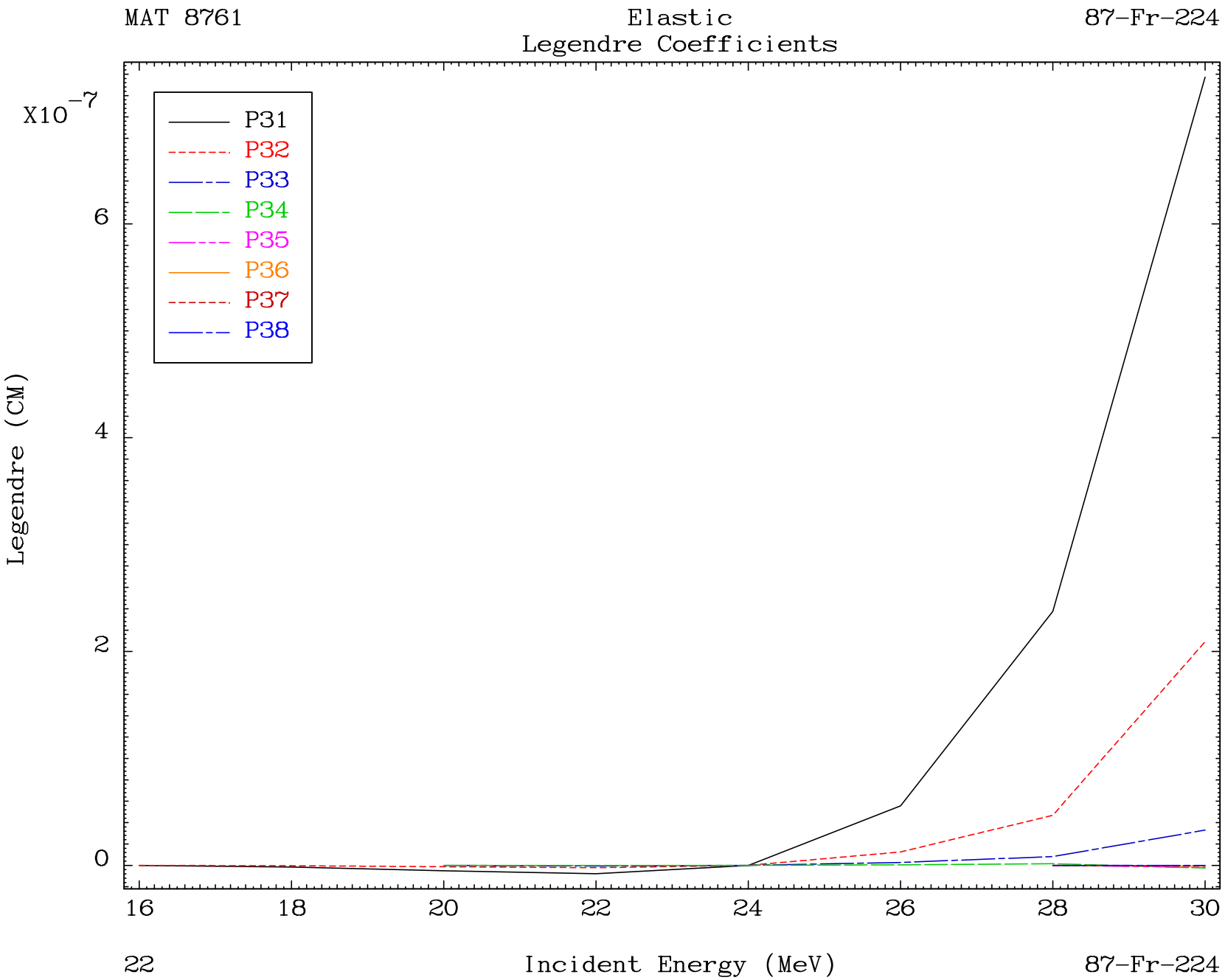

MAT 8761
(n,α) Levels
87-Fr-224
293 Kelvin Cross Sections
(n,α)
(n,2α)
Cross Section (barns)
10-4
10-6
10-8
10-10
5
10-10
10-8
10-6
10-4
10-2
100
102
17
Incident Energy (MeV)
87-Fr-224

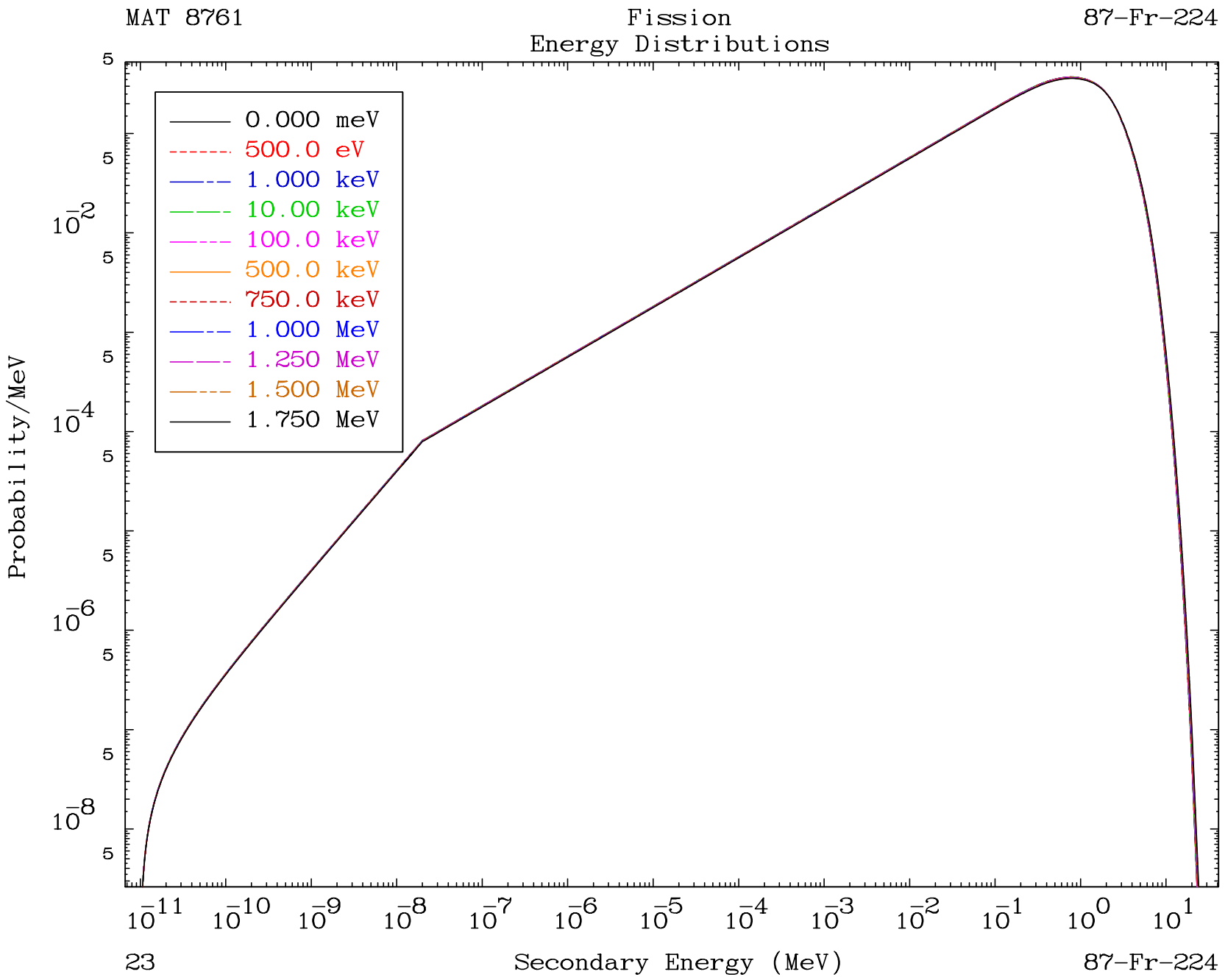

MAT 8761
Energy Release
Parameters
87-Fr-224
Parameters
Total $\bar{\nu}$
Delayed $\bar{\nu}$
Prompt $\bar{\nu}$
10^0
10^{-1}
4
2
8
6
4
2
8
6
4
2
0
50
100
150
200
18
Incident Energy (MeV)
87-Fr-224

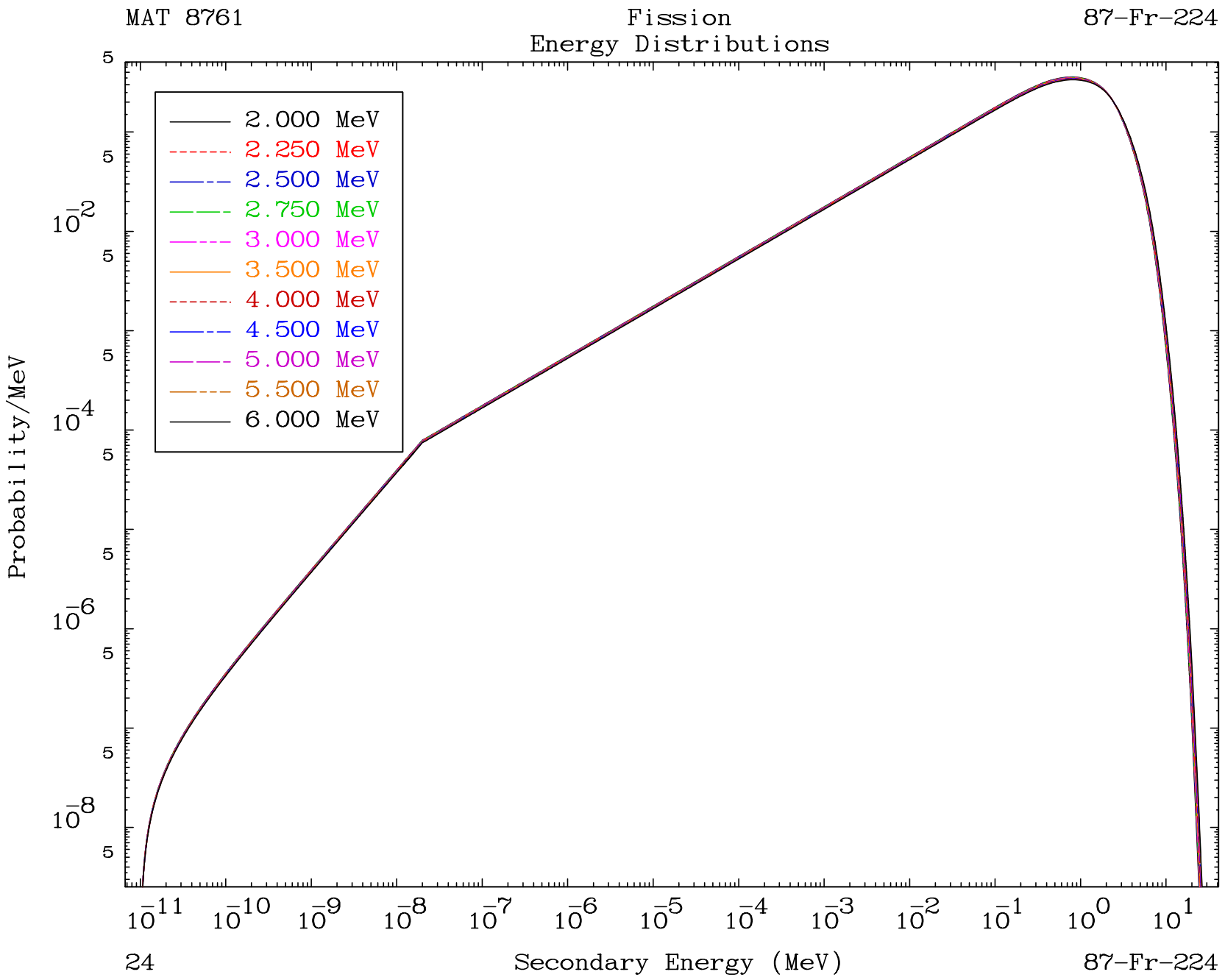

MAT 8761
Elastic
Legendre Coefficients
87-Fr-224
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
19
Incident Energy (MeV)
87-Fr-224
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

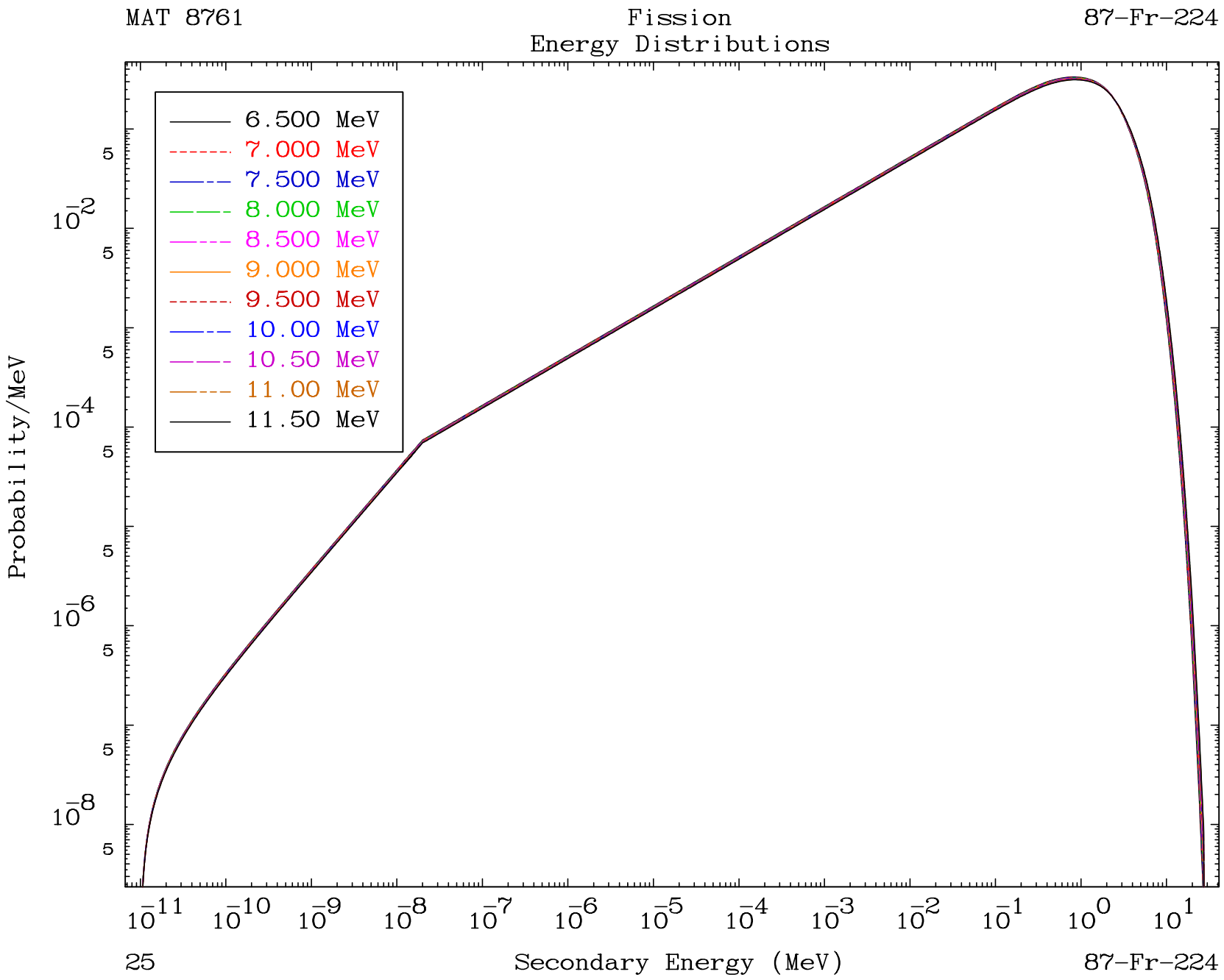

MAT 8761
Elastic
Legendre Coefficients
87-Fr-224
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
Legendre (CM)
0.0
0.1
0.2
0.3
5
10
15
20
25
30
20
Incident Energy (MeV)
87-Fr-224

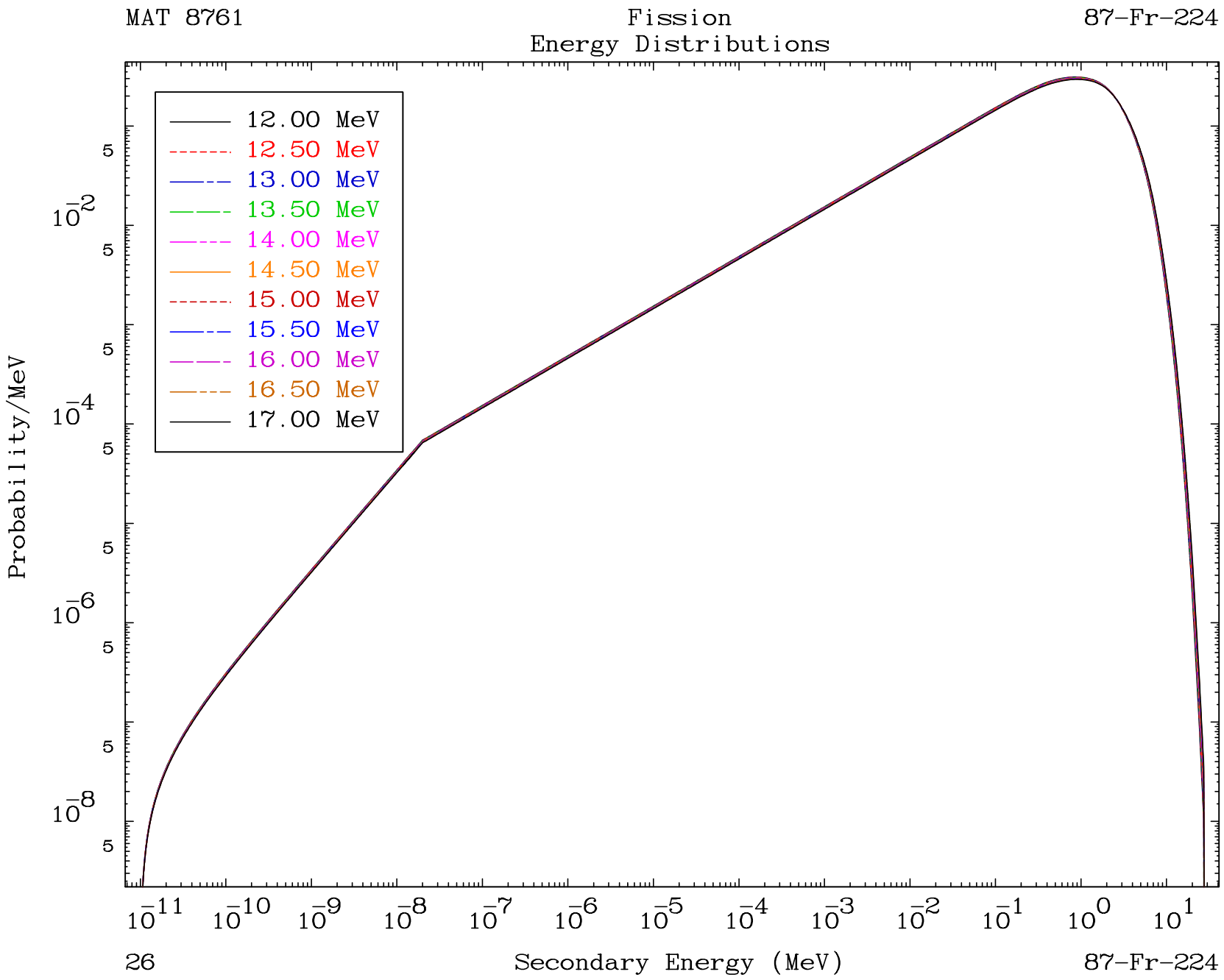

MAT 8761
Elastic
Legendre Coefficients
87-Fr-224
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.012
0.008
0.004
0.000
Legendre (CM)
10
15
20
25
30
21
Incident Energy (MeV)
87-Fr-224

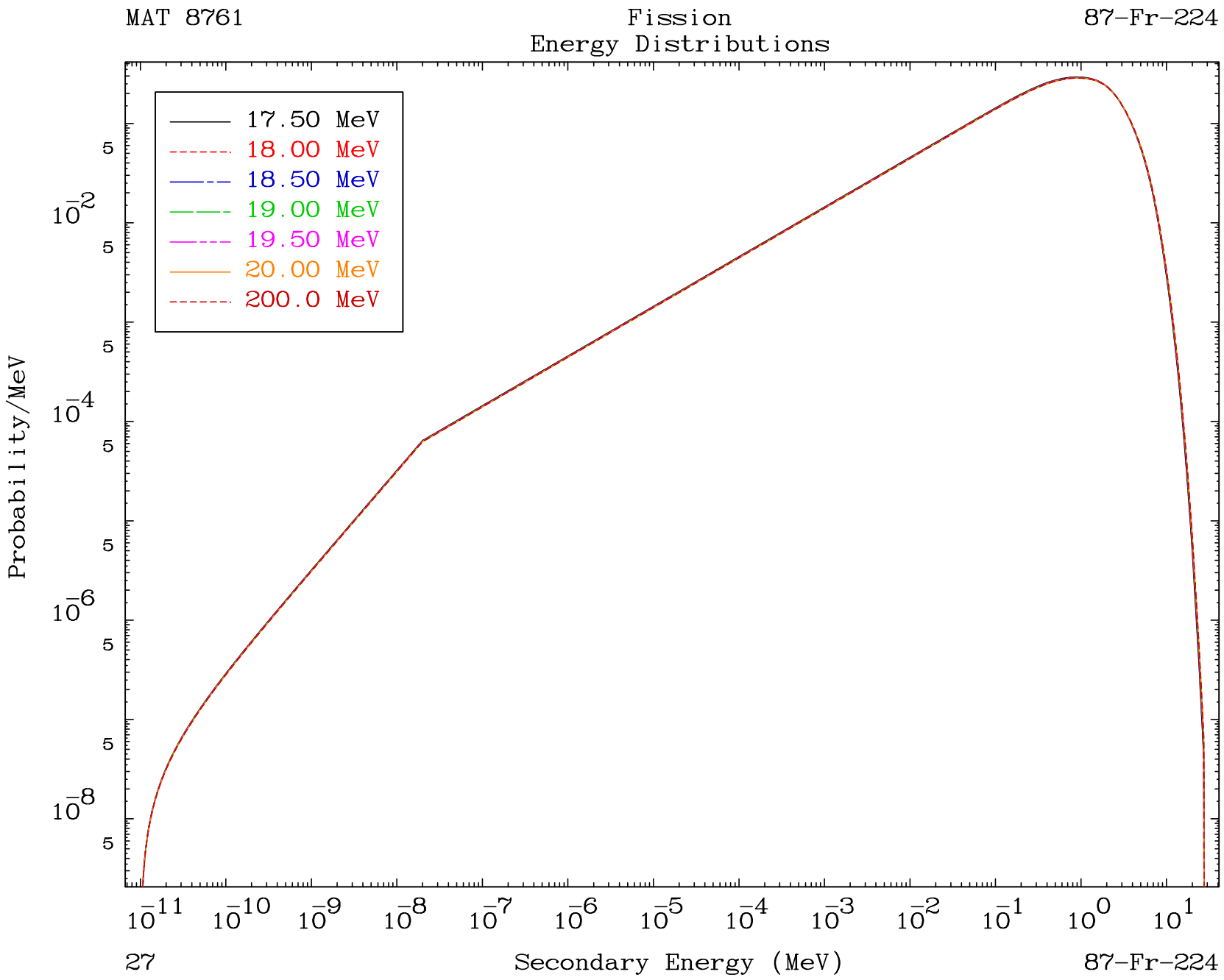

MAT 8761
Elastic
Legendre Coefficients
87-Fr-224
X10^-7
P31
P32
P33
P34
P35
P36
P37
P38
Legendre (CM)
6
4
2
0
16
18
20
22
24
26
28
30
22
Incident Energy (MeV)
87-Fr-224

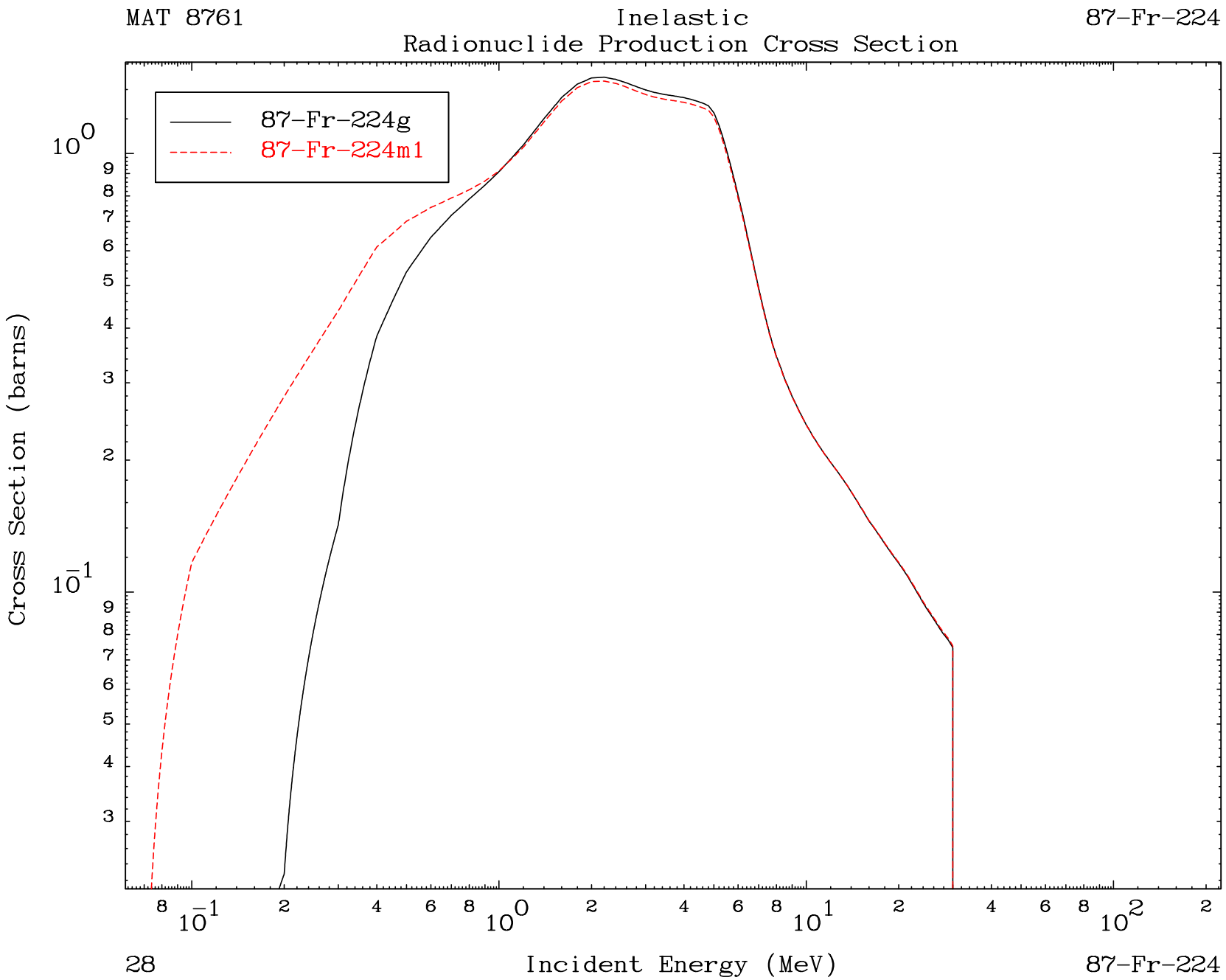

MAT 8761
Fission
87-Fr-224
Energy Distributions
0.000 meV
500.0 eV
1.000 keV
10.00 keV
100.0 keV
500.0 keV
750.0 keV
1.000 MeV
1.250 MeV
1.500 MeV
1.750 MeV
Probability/MeV
Secondary Energy (MeV)
23
87-Fr-224

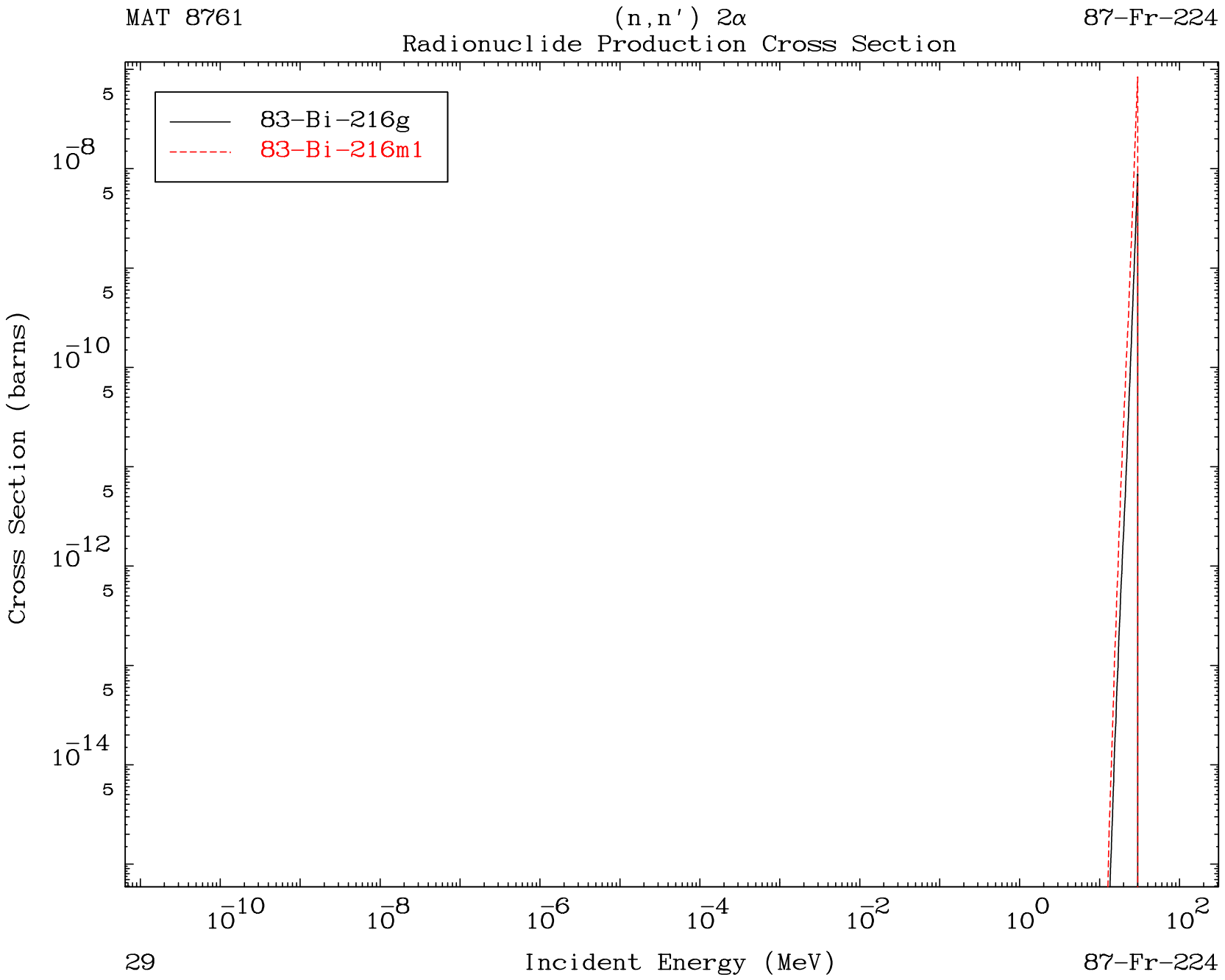

MAT 8761
Fission
Energy Distributions
87-Fr-224
2.000 MeV
2.250 MeV
2.500 MeV
2.750 MeV
3.000 MeV
3.500 MeV
4.000 MeV
4.500 MeV
5.000 MeV
5.500 MeV
6.000 MeV
Probability/MeV
Secondary Energy (MeV)
24
87-Fr-224

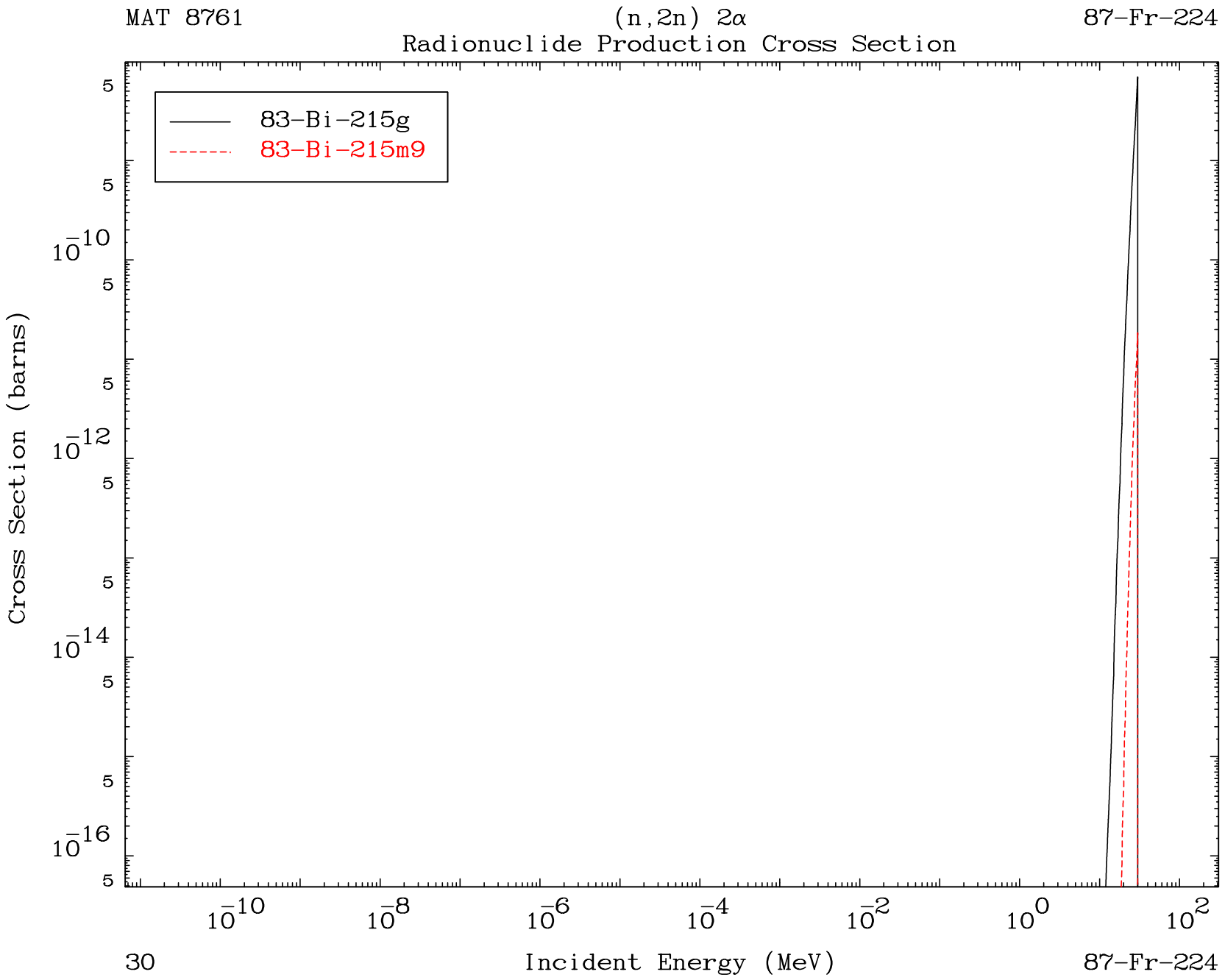

MAT 8761
Fission
Energy Distributions
87-Fr-224
6.500 MeV
7.000 MeV
7.500 MeV
8.000 MeV
8.500 MeV
9.000 MeV
9.500 MeV
10.00 MeV
10.50 MeV
11.00 MeV
11.50 MeV
Probability/MeV
Secondary Energy (MeV)
25
87-Fr-224


MAT 8761
Fission
87-Fr-224
Energy Distributions
12.00 MeV
12.50 MeV
13.00 MeV
13.50 MeV
14.00 MeV
14.50 MeV
15.00 MeV
15.50 MeV
16.00 MeV
16.50 MeV
17.00 MeV
Probability/MeV
Secondary Energy (MeV)
26
87-Fr-224


MAT 8761
Fission
Energy Distributions
87-Fr-224
17.50 MeV
18.00 MeV
18.50 MeV
19.00 MeV
19.50 MeV
20.00 MeV
200.0 MeV
Probability/MeV
Secondary Energy (MeV)
27
87-Fr-224


MAT 8761
Inelastic
87-Fr-224
Radionuclide Production Cross Section
87-Fr-224g
87-Fr-224m1
Cross Section (barns)
Incident Energy (MeV)
28
87-Fr-224


MAT 8761
(n,n') 2α
87-Fr-224
Radionuclide Production Cross Section
83-Bi-216g
83-Bi-216m1
Cross Section (barns)
10-8
10-10
10-12
10-14
5
10-10
10-8
10-6
10-4
10-2
100
102
29
Incident Energy (MeV)
87-Fr-224


MAT 8761
(n,2n) 2α
87-Fr-224
Radionuclide Production Cross Section
83-Bi-215g
83-Bi-215m9
Cross Section (barns)
Incident Energy (MeV)
30
87-Fr-224